DOCUMENT RESUME

ED 206 310 IR 009 622

AUTHOR Rosen, Lynn M.; Owen, G. W. Brian
TITLE BCUC Data Base Loading and BCLN User and Data Base Requirements Study. BCUC Replication Study, Design Phase I. Main Report.
INSTITUTION British Columbia Union Catalogue, Richmond.
REPORT NO ISBN-0-919093-05-1
PUB DATE Apr 81
NOTE 196p.; For related documents, see ED 200 203-207.

EDRS PRICE MF01/PC08 Plus Postage.
DESCRIPTORS Costs; *Databases; *Design; Foreign Countries; Information Networks; *Library Networks; Library Technical Processes; Needs Assessment; Questionnaires; *Specifications; Union Catalogs
IDENTIFIERS *British Columbia; DOBIS System

ABSTRACT

This design phase study concerning the proposed replication of the DOBIS system for the British Columbia Library Network (BCLN) was conducted to determine the preferred strategy for the transfer and loading of the British Columbia Union Catalogue (BCUC) database currently resident at the University of Toronto's UTLAS system. User and database requirements are investigated in order to recommend a suitable database design for the BCLN DOBIS system. Other implementation tasks such as pilot usage projects are examined. Cost estimates and an implementation schedule for all tasks are included. A bibliography lists previous BCUC reports and documents, National Library DOBIS documents, journal articles, and miscellaneous publications. A 15-page supplementary report focusing on implementation from the perspective of an individual BCUC library is provided. (Author/FM)

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Ministry of Education (Project Planning Centre)
Library Needs Assessment
BCUC Replication Study Document
Design Phase I: Data Base Load/User Requirements

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ED206310

BCUC Replication Study

Design Phase I

BCUC DATA BASE LOADING

AND

BCLN USER AND DATA BASE REQUIREMENTS STUDY

Main Report

by

Lynn M. Rosen

G.W. Brian Owen

(University of British Columbia Library)

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APRIL 1981

Richmond, B.C., British Columbia Union Catalogue

IR009622

Canadian Cataloguing in Publication Data

Rosen, Lynn M. (Lynn Margaret), 1943-
BCUC data base loading and BCLN user and data base requirements study

(BCUC replication study document)
At head of title: BCUC replication study, design phase I.
ISBN 0-919093-05-1

1. British Columbia Library Network. 2. British Columbia Union Catalogue. 3. DOBIS (Electronic computer system). 4. Library information networks — British Columbia. I. Owen, G.W. Brian (Griffith William Brian), 1953- . II. British Columbia Union Catalogue. III. Title. IV. Series.

Z674.83.C32B775 021.6'5'09711 C81-091178-7

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BCUC Replication Study

Design Phase I

BCUC DATA BASE LOADING

AND

BCLN USER AND DATA BASE REQUIREMENTS STUDY

SUPPLEMENTARY REPORT

by

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May 1981

Richmond, B.C., British Columbia Union Catalogue

IR009622

Canadian Cataloguing in Publication Data

Rosen, Lynn M. (Lynn Margaret), 1943-
BCUC data base loading and BCLN user and data base requirements study

(BCUC replication study document)
At head of title: BCUC replication study, design phase I.
ISBN 0-919093-05-1

1. British Columbia Library Network. 2. British Columbia Union Catalogue. 3. DOBIS (Electronic computer system). 4. Library information networks — British Columbia. I. Owen, G.W. Brian (Griffith William Brian), 1953- II. British Columbia Union Catalogue. III. Title. IV. Series.

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1. INTRODUCTION

The Main Report [1] and the Hardware and Computing Facilities Evaluation Study [2] have provided the information necessary for the Steering Committee to make a recommendation regarding replication. The data base load study was divided into a main report and a supplementary report in order that this required information should be available at the same time as the hardware study. Much of what was to have been covered in the supplementary report is in fact included in the main report.

There are numerous implementation details that must still be resolved. Many of these are outlined in the implementation tasks in the main report. Most of the other details might best be left until the replication decision has been taken, the organizational structure has been defined, a facility is in place, and the Replication Team has been established. It is expected that changes will occur between the time of the studies and the undertaking of replication; any detailed information beyond that gathered in the various studies for decision-making purposes can be expected to be out of date by the time replication gets under way.

For these reasons, this supplementary report focuses on implementation from the perspective of an individual BCUC library. It deals with questions such as: what can the individual library be doing to prepare for replication? what library concerns were raised by the reports? what should BCUC be doing until the implementation decision is taken and replication is under way?

---

[1] Lynn M. Rosen and G.W. Brian Owen, BCUC Data Base Loading and BCLN User and Data Base Requirements Study: Main Report (Richmond, B.C.: B.C. Union Catalogue, 1981).

[2] Stephen H. Smith, BCLN Hardware and Computing Facilities Evaluation Study (Richmond, B.C.: B.C. Union Catalogue, 1981).

2. INDIVIDUAL LIBRARY PERSPECTIVE

2.1 INTRODUCTION

The transfer of BCUC users from UTLAS to the BCLN DOBIS facility will involve 28 libraries and take at least six months to accomplish. Libraries will be switched to BCLN DOBIS in two phases. During an Initial Users Phase, two or three libraries will be transferred to the new system. This should take one to three months, since it will involve a 'fine tuning' of the system. As soon as the Initial Users Phase is completed and the first batch products are produced the transfer of other BCUC libraries will commence.

The transfer process should be accomplished as quickly as possible. This will reduce costs and will simplify the logistics of the transfer. This transfer strategy will also reduce the disruption of the processing workflow in each library. It will also enable BCLN DOBIS to achieve a level of service and products comparable to UTLAS' within an acceptable period of time.

Several factors will aid the success of the transfer of users to BCLN DOBIS. There must be user involvement in all implementation tasks pertaining to the transfer. BCLN staff must also be available to assist each library during the transfer process. Both parties will be jointly involved in many tasks before, during, and after the actual transfer.

There are a number of transfer issues that must be reviewed and resolved by BCUC members. As a group, it is necessary to determine the order in which users should be transferred to the replicated facility. It will also be necessary for each BCUC member to formulate its own internal strategy for the transfer to BCLN DOBIS. Each library will be responsible for its allocation of resources. Responsibility for transfer-related activities, including training of staff, will have to be determined. Although BCLN staff costs will be covered by 'start-up' funding, each library will need to absorb staff time and other costs arising from implementation activities within their library.

The following sections discuss the implementation tasks that are directly related to the transfer of inidividual BCUC members. They are presented from the prespective of an individual library and should provide an overview of the involvement that will be required from each BCUC library in the Implementation Phase tasks.

Although it will be the responsibility of BCLN DOBIS staff to initiate and co-ordinate implementation tasks, the process will be facilitated if each BCUC member is aware of what is

expected and has already undertaken some preliminary local preparation.

2.2 DATA BASE LOAD SPECIFICATIONS

One of the most critical tasks during the Implementation Phase willl be the matching, amalgamating, and loading of the BCUC members' UTLAS files into the BCLN DOBIS facility. Each member library will have to provide some very detailed information about its cataloguing practices so that the loading programs will correctly process each member's records. The development of the loading programs is a PRIORITY 1 implementation task; it will be one of the first tasks requiring the involvement of each BCUC member.

Record definition. A 'field-by-field' review of MARC record usage by each BCUC library will be required. Each library will have to identify the types of records (monographs, serials, A/V) that it is creating, local fields in use, and non-standard or exceptional data in particular fields. Any library-specific cataloguing practices that vary from general BCUC standards and may create matching and amalgamation problems will also have to be identified.

Exception report definition. Some libraries have already indicated that they would like exception reports from the data base load that will indicate what happened to their records during processing. Therefore it will also be necessary for those interested libraries to formulate their requirements for exception reports. This will include the processing situations, or types of records, that should be reflected in the exception reports, and the amount, and type, of information that must be printed.

Libraries should expect to bear the cost of library-specific exception reports; they should also realize that their development will be dependent on sufficient BCLN staff and resources being available.

2.3 BCLN DOBIS CODE TABLES

The DOBIS system stores a lot of general, and library-specific, information in 'code tables'. Much of the information that appears on each DOBIS screen is generated from those tables for use during cataloguing and other on-line activities. Many of the general code tables will have already been established by NLC and can be used with little, if any, modification by BCLN DOBIS. However, there are several library-specific code tables that will have to be implemented locally before the data base load takes

place and BCLN DOBIS becomes operational. The establishment of these code tables is a PRIORITY 1 implementation task.

Authorization level code tables will control 'who can do what' for each library participating in BCLN DOBIS. Although code tables can be set up that relate authorization levels to specific individuals it will be preferable to relate them to tasks or job responsibilities such as 'original cataloguing' or 'added copies'. The definition of appropriate authorization levels will require some review of existing workflows. Each library will need to relate its current activities on UTLAS to equivalent activities on DOBIS, with help from the BCLN DOBIS staff. Some 'fine-tuning' of authorization levels will likely occur after DOBIS is implemented in each library and users become more familiar with the system and continue to alter and to improve their workflow.

Location code tables will be similar to the controlled location codes currently used by BCUC libraries on UTLAS. In most instances, those same location codes can be established in BCLN DOBIS. The definition of library-specific location codes will require some additional time for those libraries currently using a two-level location/sublocation system. DOBIS will require that each potential location/sublocation combination be estabished as a specific location code.

Product request code tables will identify the types of batch products (cards, labels, fiche catalogues, etc.) required by each library. The establishment of this code table will not require detailed product specifications. It will only be necessary for each library to determine the types of products they require.

Additional information can always be added, or existing information updated, in the above code tables.

2.4 BATCH PRODUCT SPECIFICATIONS

Standardized batch products have been proposed initially for BCLN DOBIS, but it will still be necessary to collect library-specific product specifications. Standard batch product specifications will be based upon existing products. Furthermore, it is expected that there will be some local variation especially in the following areas:

- sort sequences
- local notes/holdings information
- possibly, record display formats (choice of data and its arrangement)
- possibly, cumulations/supplements and frequency pattern

The development of standard batch products has been designated as a PRIORITY 2 implementation task. The transfer of most BCUC libraries from UTLAS will not commence until those products have been implemented and tested during the Initial Users phase.

As a preliminary step in the development of standard batch products, each BCUC library will have to define clearly the various products they are currently receiving from UTLAS.

2.5 EQUIPMENT REQUIREMENTS AND INSTALLATION

It is likely that BCLN DOBIS will require particular types of terminals, printers and related hardware. However, this can not be completely determined until the location of the computing facility and the type of telecommunications network has been resolved. In any event, each BCUC library should start considering its equipment requirements. Initially, each library will require at least the same number of terminals as it currently uses with UTLAS. Some libraries may also require a printer if they plan to do editing or checking off-line.

2.6 TRAINING AND PREPARATION FOR TRANSFER TO BCLN DOBIS

The proposed implementation schedule in the Main Report made provision for BCLN staff to train users and prepare them for the transfer of their library to BCLN DOBIS. BCLN staff will compile preliminary user documentation and other training aids.

DOBIS provides extensive prompting and menu selection, enabling a user to perform most cataloguing activities with relatively little initial instruction. As users become familiar with the system and such options as 'chaining' commands, their efficiency will increase. The transfer experience at College Bibliocentre was that most staff were using DOBIS without any major problems after one week. Some staff were able use to use DOBIS without any problems after as little as one to two days 'on-line' experience. The longest period before users were comfortable with the new system was two weeks, but this was because they did not know how to type and required some additional time to familize themselves with keyboard work. However, it is to be expected that some months will elapse before full efficiency is achieved. Ideally, a test version of BCLN DOBIS will be available and equipment installed in each library before they transfer their operations. This will facilitate training and provide users with 'hands on' experience.

Each BCUC library will have to expect some productivity and workflow adjustments during the implementation of BCLN DOBIS. The

training of staff and other implementation activities will impact on regular cataloguing work. Once the transfer to BCLN DOBIS is completed, many libraries will likely want to review their existing processing activities. DOBIS has the potential to eliminate much of the paperwork often associated with cataloguing and to make the entire process more efficient. Although BCLN staff will be able to provide some assistance in determining workflow adjustments and other library-specific changes , these internal adjustments will be at the discretion of each library.

2.7 TRANSFER TO BCLN DOBIS

As discussed above, the ideal implementation schedule would result in most BCUC libraries being tranferred to BCLN DOBIS over a period of three to four months. This is almost two libraries every week. Basically, a library will be using UTLAS one week, and then using BCLN DOBIS the next week. However, each library will have spent some time before that in intensive training and preparation for the transfer. It is also safe to assume that the first several weeks of use on the new system will be largely 'educational'. Therefore, from the perspective of an individual library the complete transfer process will probably require about one month.

BCLN staff will perform a critical role throughout the entire transfer process. They will have to be available 'on-site' for both the training and transfer of each BCUC library. They will also be responsible for co-ordinating the transfer of each library with that of other BCUC libraries and with concurrent implementation tasks such as the development and production of batch products.

2.8 FOLLOW-UP

It will be very important that both BCLN, and local library, staff are prepared to deal with unexpected problems that may arise after the transfer from UTLAS has been completed. 'Trouble-shooting' will be an ongoing responsibility of BCLN staff, but users should also be prepared to monitor their local use of the system especially during the period immediately after the transfer. In addition, users should check their first batch products closely for any errors.

2.9 CONCLUSION

It will ease the transfer to BCLN DOBIS if each library can take some time to prepare for it . Although it is possible to continue cataloguing in much the same manner as with a manual

system, DOBIS has the potential to improve the entire cataloguing process in a library.

BCLN staff and the proposed Implementation Committee will be responsible for co-ordinating and instigating many implementation tasks, but there are some related activities that each BCUC library could start on immediately. Each library should start thinking about their internal implementation strategy for BCLN DOBIS. They can also begin the task of gathering the library-specific information that is required for the development of the loading programs and batch products for BCLN DOBIS.

3. FOLLOWUP ON MAIN REPORT

3.1 INTRODUCTION

Subsequent to the publishing of the Draft Main Report, feedback was solicited from member libraries by telephone and a workshop presentation. While it may be premature to begin the actual work of replication, the concerns expressed by the members, and the replication requirements suggest that once replication is approved, it would be useful to establish the Implementation Committee as soon as possible, so that it may begin to make the necessary policy decisions.

In this section are included a list of criteria for selection of the Committee, and a preliminary list of decisions to be made.

Not all members could be contacted, but a list of required batch products was compiled for those libraries which were reached.

Further preliminary data concerning the matching and amalgamation specifications was gathered. As expected from the earlier examination of user records, the telephone conversations confirmed that data has been treated fairly consistently across the files, and that most local information is explicitly identified. The need to examine closely series, subject headings, local holdings, and treatment of pseudonyms was borne out. Several libraries expressed concern about the augmented summaries tney had created for A/V materials. One library expressed concern that the union record might not contain as complete contents notes as another record which was not selected. The results of the telephone survey, together with the earlier information collected, will be made available to the BCUC Project Office for use by the Replication Team.

Members expressed concern about two issues in particular: the necessity for either a cataloguers' worksheet or a cataloguers' screen; and the need to continue to have access to other data bases. This concern was expressed in particular in the form of two motions of the BCUC Standards Committee. The motions, together with a letter of comment to Paul Baldwin from us, have been included in order to provide more information to BCUC members.

3.2 CRITERIA FOR SELECTION OF THE IMPLEMENTATION COMMITTEE

What follows is an augmented list of criteria to be used in the selection of the Implementation Committee. It should satisfy the following:

1. Be a working committee of about 5-7 BCUC members.

2. Be representative of:

   - Type of library (University, College, Public, Special)
   - Library duties (cataloguing, systems, management; public services librarians should be involved in the development of the standard COM catalogue)
   - Geographic area (lower mainland, interior, island)
   - Size of library (less that 50,000 ; over 50,000; over 200,000)

3. Have a mandate to:

   - Make policy decisions on matters relating to the BCLN DOBIS implementation on behalf of member libraries.
   - Communicate these decisions to the BCLN committees.
   - Solicit their opinion when appropriate.

3.3 PRELIMINARY LIST OF TASKS FOR IMPLEMENTATION COMMITTEE

With the help of the BCUC Project Office and/or the Replication Team, the Implementation Committee should take as its first tasks to:

- Define policies and priorities for authorities records.
- Determine hierarchy for BCLN data base load.
- Define BCLN DOBIS verification levels.
- Define BCLN authorization levels.
- Define BCLN record protection codes.
- Define BCLN user library codes.
- Develop general guidelines for BCLN standard fiche products.

CRITERIA FOR SELECTION OF INITIAL USERS.

It is important that the initial users be carefully chosen in order to ensure the successful replication of the system in British Columbia. The following factors should be taken into account when the initial users are chosen.

- The libraries chosen must be willing to undertake this task, recognizing the responsibilities and benefits which will accrue.
- The first user should be located near the BCLN offices in order to facilitate the intensive interaction which will be required during this period between the Replication Team and the Initial Users. If the facility is located at an institution, that institution should be chosen as the first initial user.
- A second initial user should be located outside of the lower mainland in order to identify and solve any problems which may occur in relation to long-distance communications.
- Initial users should be medium size libraries 50,000-100,000 volumes roughly, to provide sufficient level of cataloguing (original and derived) to test the system, but not to complicate the transfer of staff and change in workflow unnecessarily at a time when BCLN staff will need to devote their attention primarily to the new system.
- Initial user libraries should have demonstrated skill in identifying, describing, and analysing system problems which may develop.

3.5 BATCH PRODUCT REQUIREMENTS.

What follows is a list of batch product requirements identified in the telephone survey. While not complete, it should serve as a basis for identifying those products to be given development priority during Implementation.

Product:	Number of libraries requiring:
Fiche catalogue	19
Shelf list card:	9
Complete card sets	3
Acquisitions lists	9
A/V catalogue	(1 planned)
A/V book catalogue	2 (plus 1 planned)
Serials book catalogue	2
Foreign language book catalogue	1
Labels	1 (plus 1 planned)
Magnetic tape	1 (plus 1 planned)
Microfilm catalogue	1

3.6 STANDARDS COMMITTEE MOTIONS AND COMMENT

The following motions passed at the BCUC Standards Committee Meeting of April 23, 1981, express concerns of the membership which will need to be met in the replication process.

MOTIONS.

THAT the Standards Committee urge the BCUC director to bring forward in priority the development of both the cataloguer's screen and cataloguer's printout, thus assuring that one or the other is in place at the time of implementation [by the first user].

THAT the BCUC director be urged to begin preliminary negotiations as soon as possible with respect to achieving access to non BCLN data files.

LETTER OF COMMENT.

To: Paul Baldwin.
From: Lynn Rosen, Brian Owen.

05-06-81

Re: BCUC Standards Committee Motions.

After speaking with you Friday, we have reviewed the recent BCUC Standards Committee motions. What follows is a clarification of the related parts of our report.

1. Cataloguers' printout/screen.

The development of the cataloguers' printout is currently a Priority 1 implementation task. We suggested the development of this printout because, it appeared to us, and to those librarians we discussed the matter with, that the printout would be more useful in the cataloguing context than reviewing the same detailed information on a screen. In addition, we expected that it would be easier to develop than the screen. (After consulting with a systems programmer, it appears that the printout/screen displays may occur concurrently, as they do with UTLAS. However, the form this development takes is largely a technical issue.) Thus the Motion of the BCUC Standards Committee is in agreement

with the report's recommendations.

2. Access to non-BCUC data files.

The issue of BCLN access to other data bases/machine-readable catalogue records is addressed in Parts 3.4-3.6 of our report. The crucial recommendation is on page 45:

> THAT, after the initial data base load, BCUC continue to maintain the source record component of the BCLN DOBIS data base by the regular receipt of tapes from the appropriate national cataloguing agencies and other institutions as determined by the BCLN members.

Perhaps it is worth stressing that 'source' in this context means non-BCUC.

It would be useful if BCUC members did begin identifying those data bases which have a significant number of records of interest to BCUC members and not accessible elsewhere. As well as the quality and quantity of records obtainable, the overlap among data bases should be taken into account in these deliberations.

As far as access to these records once BCLN is operational, there are numerous possibilities as to what may be the optimal approach to obtaining that access. Such possibilities would include:

- full telecommunications access, meaning that a search request would automatically be switched to alternate data bases, in a manner transparent to the searcher. This is a long way off.
- Posting of requests. It might be possible to obtain access to a data base, search a record, and post a request for it to be shipped to BCLN (by wire or mag.tape).
- Search and copy. In other cases, it might be possible to search a data base, copy the data by hand, and rekey it into the BCLN data base.
- Load source files directly into BCLN.

Whatever possibilities can be adopted at the time of implementation depends on the state of the art, of politics, of cost and of BCLN requirements. Preliminary steps toward on-line record sharing are being taken through the National Library's committees of which you, Bob and Basil are participants. It is quite costly to maintain infrequently used files on BCLN DOBIS.

Further, the loading of these files is a slow process. Whatever approach and data bases are used, it has been our mutual assumption that the cost of accessing or maintaining these files will be a network cost; there is provision in the budget for maintaining source files, whether loaded into BCLN or accessed on-line.

3. We have forwarded to you a copy of NL DOBIS' matching algorithm. A word of caution:

As mentioned in the report, the matching algorithm cannot be applied directly to the BCLN data base load because we will be setting up sort keys and loading the files simultaneously. The NL DOBIS matching algorithm is used to load records one at a time against the existing data base and uses a multi-level conditional matching procedure. Further, it will be necessary to test the algorithm on the BCLN data base before the load takes place, to identify problems unique to BCLN's records, such as those with the LCCN's.

4. Implementation tasks.

It will facilitate the implementation process if the Implementation Committee is established as soon as the replication decision is made. In the meantime, there are several implementation tasks which it would be useful for the BCUC Standards Committee to begin examining.

The first is to define the selection criteria for choice of union record to be used during the data base load. According to the selection criteria, the BCUC libraries will be ranked. The ranking may change according to coding level or type of material (the latter has been suggested, particularly, for A/V and serials).
In defining the criteria, factors such as use of AA2 rules, degree of authority control and editing, frequency of original cataloguing and tracing of series can be taken into account (this is not meant to be an exhaustive list of criteria).

The hierarchy of authority records for BCLN should be defined. It is not clear that UTLAS' criteria are the most desirable in the BCLN context. Related to this is the definition of what authority cleanup should be undertaken as part of the data base load.

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AUTHOR ABSTRACT
(To Accompany Document Submitted to ERIC/IR)

Author: Rosen, Lynn M. (Lynn Margaret), 1943 - [and]
Owen, G.W. Brian (Griffith William Brian), 1953 -
Title: BCUC Data Base Loading and BCLN User and Data Base Requirements Study.

Abstract (up to 200 words):

A design phase study concerning the proposed replication of the DOBIS System for the British Columbia Library Network. The purpose of this study is to determine the preferred strategy for the transfer and loading of the BCUC data base currently resident at UTLAS. User and data base requirements are investigated in order to recommend a suitable data base design for the BCLN DOBIS System. Other implementation tasks such as pilot usage projects are examined. Cost estimates and an implementation schedule for all tasks are included.

****
Information About Document
****

Paper presented at:

Project Report (Contract Information, if possible)

Journal Article (Complete Citation)--(Some journals do not appear in CIJE)

Other ISBN 0-919093-05-1

IR009622

If one conceives the universe to be a dead, material creation of physical laws, all experiments tend to confirm it as such. If one conceives it as a living creature, so it will appear.

Thus, by a decision, we can literally make the world in the image that best suits our interests.

--John Mitchell

ACKNOWLEDGEMENTS

We are indebted to many people for their help during this study. The final report incorporates useful information and suggestions received from these individuals.

First, we would like to acknowledge the contribution of Paul Baldwin, Director of the British Columbia Union Catalogue Project. As Project Manager for this study, Paul was closely involved. He reviewed our findings and recommendations at several critical stages. Paul also co-ordinated the work of this study with the other Design Phase I study examining hardware and computing facility requirements. Paul's efforts ensured that the overall requirements for Design Phase I were met. Paul and his staff also looked after the numerous administrative details associated with the project.

The previous studies by Ralph Shoffner and Mary Madden, and the study by Ann Turner, Carolyn Hoffman and Shirley Ward provided a sound foundation for our endeavours. We feel that this study should be viewed as a logical extension of those earlier studies.

William Newman, Mary Joan Dunn, Jim Dimsdale, Reg Webber and other staff of the Library Systems Centre of the National Library of Canada were very helpful and informative during our visit to Ottawa and during numerous telephone conversations. They provided us with extensive documentation on DOBIS and patiently answered our many questions. It would not have been possible to complete this study without their co-operation.

Steven Smith of Systems West was helpful in clarifying several technical issues.

Maneck Khambatta, Doreen Carpenter, and Doug Wentzall of College Bibliocentre, Centennial College, were very helpful during our visit. They reviewed how they had implemented their version of DOBIS and how it was integrated into their work flow.

Eric Anttila and Harriet Velazquez of UTLAS also provided us with information about several replication-related issues.

Special thanks go UBC Library staff. John Campbell, Bill Ng, Pete Edgar and Don Dennis all acted as 'sounding boards' and provided invaluable comments and suggestions. As our 'other' boss during the study, Don must also be commended for his flexibility in the face of our erratic working schedule. We would also like to thank Bob Macdonald and Ann Turner who proofread working drafts of the report and provided useful comments and suggestions.

The contribution of many BCUC members to the study must also be acknowledged. The members of the Ad Hoc Technical Advisory Committee for the study and the BCUC Standards Committee provided valuable feedback during several meetings. Thanks to those members who took the time to fill out the survey distributed in December, or to talk individually to us about replication issues.

Finally, we would like to acknowledge the cuisinary talents of the UBC Campus Pizza and Red Leaf restaurants. Any spice in this report is due to nourishing dinners consumed there in the line of work. Four stars!

While we have been dependent upon all of these people for their help and suggestions, the content of this report remains our responsibility.

Lynn M. Rosen
G.W. Brian Owen

University of British Columbia Library.
April, 1981.

BCUC Replication Study. Design Phase I.
Data Base Load and User Requirements Study. Main Report.
April 1981.

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PART 1. INTRODUCTION

PART 1. INTRODUCTION.

1.1. BACKGROUND.

Since 1977, many British Columbia libraries have successfully made the transition from manual to automated cataloguing using the University of Toronto Library Automation Systems (UTLAS) facility in Toronto. Much of this activity has been coordinated through the offices of the British Columbia Union Catalogue (BCUC) Project.

Participating libraries have agreed upon cataloguing standards and contributed to the building of a B.C. union catalogue data base at UTLAS. There are now over one million machine-readable catalogue records. An annual BCUC COM (Computer Output Microform) catalogue showing the holdings of all participants has been produced. BCUC has continued to grow both in terms of membership and in scope. Participants in BCUC represent the spectrum of British Columbia libraries.

There is a need to provide improved access to provincial library resources. There is also a desire to make the acquisition and processing of library materials more efficient. To this end, BCUC members are investigating the possibility of replicating an automated library facility in British Columbia.

Replication would enable B.C. libraries to continue their development of a provincial library resource more effectively and economically. The BCUC data base would be transferred from UTLAS to a local facility. This would reduce the outflow of funds from B.C. for library processing services. B.C. libraries could guide the development of a local facility so that it would meet internal processing requirements better and provide improved service to users of B.C. library resources.

PART 1. INTRODUCTION.

With funding from the government of British Columbia, BCUC initiated a number of studies[1] to investigate the feasibility of replication and to recommend the most appropriate automated library system. Those studies concluded that replication was feasible and recommended the DOBIS system as the most suitable choice for a local facility. Consequently, BCUC forwarded a proposal[2] to the B.C. government requesting that funding be provided for the establishment of a replicated library facility in British Columbia. It was assumed that operating costs would be covered by fees assessed to the users, once the BCLN facility was established.

However, before a final decision could be made some additional information was required. The B.C. government provided more funding for two additional studies to be conducted as Design Phase I of the Replication Project.

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[1] Ralph M. Shoffner and Mary A Madden, British Columbia Library Network: A Study in Feasibility (Richmond, B.C.: B.C. Union Catalogue, 1980).

Ralph M.Shoffner and Mary A. Madden, The DOBIS and Washington Library Network Systems: A Comparison for the B.C. Library Network (Richmond, B.C.: B.C. Union Catalogue, 1980).

[2] B.C. Union Catalogue, Proposal to Fund the Establishment of a Computer Based Library Service Utility in British Columbia (Richmond, B.C.: 1980).

PART 1. INTRODUCTION.

1.2 DESIGN PHASE I STUDIES.

The major purpose of the Design Phase I studies is to provide "additional and more detailed cost and technical information about the proposed replication of DOBIS as the BCLN system."[1] These reports should enable the Project Review Committee to make a fully informed decision about the replication of the DOBIS system for the proposed B.C. Library Network.

The BCLN Hardware and Computing Facilities Evaluation Study has several basic objectives. It will provide more detailed technical and cost information on the hardware and processing facility requirements, and recommendations on the selection to be made. It will also prepare a Request for Proposal if it is decided the facility contract should be granted on a competitive basis.

The BCUC Data Base Loading and BCLN User and Data Base Requirements Study was to determine the preferred strategy for the transfer and loading of the BCUC data base currently in UTLAS. User and data base requirements were to be investigated in order to recommend a suitable data base design for the BCLN DOBIS system. Other implementation tasks such as pilot usage projects and transfer of libraries from UTLAS to the replicated facility were to be examined . Cost estimates and an implementation schedule for all of those tasks were to be included in the report.

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[1] B.C. Ministry of Education. Project Planning Centre. B.C. Union Catalogue Replication Study, Design Phase I: Plan Book, p. 1.0.1

PART 1. INTRODUCTION.

1.3 OUTLINE OF THE BCUC DATA BASE LOADING AND BCLN USER AND DATA BASE REQUIREMENTS STUDY.

The objectives of this study were grouped into six categories. Three of these categories were identified as crucial to the replication decision and are addressed in the Main Report of the study. The other three categories, covering less crucial issues, will be dealt with in a Supplementary Report to be issued after the first report is finished. Thus the main part of this report will be completed at the same time as the final report of the Hardware and Computing Facilities Study. Both will then be available for review and acceptance at the same time. This will expedite the final decision on replication.

1.3.1 Main Report.

The main report will encompass three major topics:

BCLN DOBIS FILE CONFIGURATION.

While the general data base configuration will be that of the NL DOBIS system, it still is necessary to review the type of access point files, relationship of source and BCLN records, and location of data elements -- including local information -- in the files.

BCLN DATA BASE LOADING REQUIREMENTS.

a. Examine and describe alternative loading procedures. Determine costs and time frame. Recommend desirable procedures.
b. Establish algorithm for matching records (UTLAS linkage, other) to identify record match/no match/possible match.
c. Identify particular data problems in loading records (holdings, series, local information).
d. Identify modifications to system required to accomplish loading of records.
e. Establish costs and time frame for loading of records.

SYSTEMS REQUIREMENTS AND COSTS FOR IMPLEMENTATION.

a. Review system enhancements recommended in previous reports.
b. Identify system enhancements required for RECON.
c. Determine requirements for batch products, current NL batch capabilities, and enhancements required to replicated facility.

d. Establish costs and times for enhancements.
e. Recommend priorities for enhancements -- relating them to the loading of records and the implementation of the system.
f. Produce preliminary specifications for enhancements.
g. Establish general guidelines for BCLN defaults and code tables.

1.3.2 Supplementary Reports.

PLAN FOR TRANSFER OF USERS TO BCLN DOBIS FACILITY.

A plan will be developed to shift users from UTLAS to the BCLN facility, taking into account the strategy for data base loading as well as user orientation and training. As part of this plan, a revised implementation table will be produced.

REVIEW OF BCUC PILOT USAGE STUDY.

The pilot usage study recommended in the feasibility studies, to be carried out by a sample of BCUC members currently using UTLAS, will be re-evaluated in light of the recommendations of the main and supplementary reports of this study. Time estimates will also be prepared. In preparing recommendations for the BCUC pilot usage study, related developments in the Public Library study will be taken into consideration.

REQUIREMENTS FOR OPERATIONAL POLICY AND USER SUPPORT.

a. Outline requirements for user training and orientation for the new system.
b. Identify documentation required (user manuals, etc.)
c. Identify alternatives in policy and methodology for maintaining quality control of bibliographic and authority records.
d. Examine means for establishing and maintaining standards and protocols for bibliographic and authority records.
e. Recommend policy on use of local files and indexes.
f. Where appropriate, provide cost and time estimates.

PART 1. INTRODUCTION.

1.3.3 Time frame (1980/81)

MONTH	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TASK							
Background	X	X					
Visit Ottawa		X			X?		
Main Report - Parts 1-4							
Preliminary				X			
Final					X		
Main Report - Parts 5-7							
Final					X		
Supplementary Report							
Preliminary						X	
Final							X

PART 1. INTRODUCTION.

1.4 REVIEW OF PREVIOUS RECOMMENDATIONS.

In their second report, The DOBIS and Washington Library Network Systems: A Comparison for the B.C. Library Network, Shoffner and Madden recommended the following:

1.4.1 Adopt DOBIS as the most appropriate system to meet the economic and service needs of British Columbia.

1.4.2 Choose the NLC version of DOBIS on the condition that its planned output products are available prior to the time that the British Columbia commitment must be made.

1.4.3 Choose the Centennial College Bibliocentre version of DOBIS if the planned output products of the NLC version of DOBIS are unavailable at the time that the British Columbia commitment must be made.

1.4.4 Approach the National Library of Canada to sponsor a development project to establish a telecommunication link between BCLN and NLC for the purposes of data base sharing.

1.4.5 Contract with the Bibliocentre for their programs to load UTLAS and CAN MARC files and to produce output products.

1.4.6 Arrange to obtain a copy of the BCUC data base loaded into NLC from the National Library's development of a national union catalogue.

1.4.7 Proceed with the general recommendations and plans of the Feasibility Substudy.

PART 1. INTRODUCTION.

1.5 THE CURRENT SITUATION.

Almost one year will have elapsed from the completion of the last Shoffner and Madden report to the submission of this report. Several of their recommendations were contingent on the state of development of the various DOBIS systems at the time of replication. There have been enhancements made to both the NL DOBIS and Bibliocentre DOBIS systems in the intervening period. Therefore, a brief review of the differences among the DOBIS versions and of significant recent developments is provided below.

1.5.1 Review of DOBIS versions.

The three DOBIS versions -- IBM, College Bibliocentre, and NLC -- that were examined by Shoffner and Madden in their study are all based upon the original DOBIS system that was developed by IBM in the early 1970's for use at the University of Dortmund in Germany. In 1977, NLC acquired DOBIS from Dortmund and contracted IBM to undertake some changes to the system so as to make it MARC-compatible. Shortly after this, College Bibliocentre also acquired the MARC-compatible version of DOBIS. In 1978, IBM(Canada) became involved by acquiring a DOBIS version from the University of Leuven that was also very similar to the modified NLC version. Both NLC and CLL have modified their versions of DOBIS to meet their own requirements.

College Bibliocentre DOBIS supports a very efficient centralized cataloguing service. They have implemented the circulation module of DOBIS at two libraries. Since the Shoffner and Madden report, they have also implemented a test version of the LIBIS acquisitions module and expect to be using it in a production mode shortly.

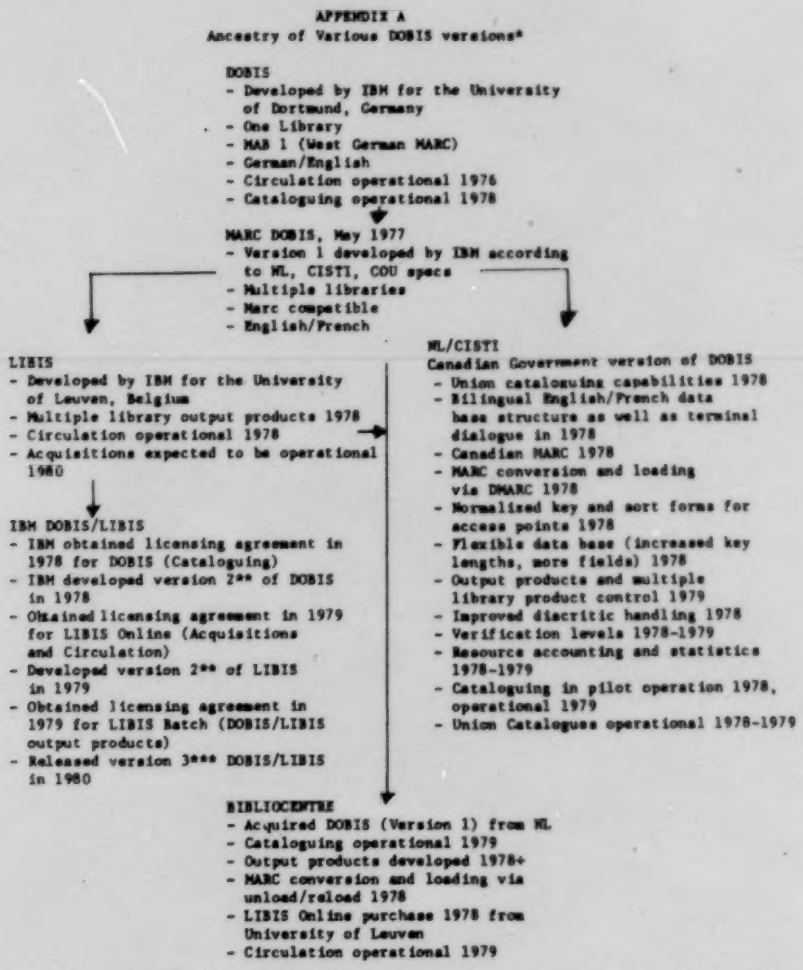
NL DOBIS supports cataloguing by multiple users with varying requirements. As part of this development, NLC has implemented mechanisms to protect users' records and files from other users and from system activities. Changes to the basic file structure have been made in order to improve systems efficiency and to overcome some operating system limitations on the number of users in a DOBIS system. Since the Shoffner and Madden report was completed, NLC has implemented a report generator/DOBIS interface in order to produce batch products. Thus they have met one of the conditional recommendations (see Part 1.4.2). They have also developed a matching and amalgamation algorithm as part of their DMIN, or off-line, loading facility. NLC also expects to install a test version of LIBIS after making some modifications to enable

PART 1. INTRODUCTION.

it to interface with the modified NL DOBIS file configuration.

After reviewing the recommendations and supporting evidence in the previous reports, and subsequent developments on these facilities, we support the recommendation of the previous report that the NLC version of DOBIS be replicated.

PART 1. INTRODUCTION.


APPENDIX A
Ancestry of Various DOBIS versions*
DOBIS
- Developed by IBM for the University of Dortmund, Germany
- One Library
- MAB 1 (West German MARC)
- German/English
- Circulation operational 1976
- Cataloguing operational 1978
MARC DOBIS, May 1977
- Version 1 developed by IBM according to NL, CISTI, COU specs
- Multiple libraries
- Marc compatible
- English/French
LIBIS
- Developed by IBM for the University of Leuven, Belgium
- Multiple library output products 1978
- Circulation operational 1978
- Acquisitions expected to be operational 1980
IBM DOBIS/LIBIS
- IBM obtained licensing agreement in 1978 for DOBIS (Cataloguing)
- IBM developed version 2** of DOBIS in 1978
- Obtained licensing agreement in 1979 for LIBIS Online (Acquisitions and Circulation)
- Developed version 2** of LIBIS in 1979
- Obtained licensing agreement in 1979 for LIBIS Batch (DOBIS/LIBIS output products)
- Released version 3*** DOBIS/LIBIS in 1980
NL/CISTI
Canadian Government version of DOBIS
- Union cataloguing capabilities 1978
- Bilingual English/French data base structure as well as terminal dialogue in 1978
- Canadian MARC 1978
- MARC conversion and loading via DMARC 1978
- Normalized key and sort forms for access points 1978
- Flexible data base (increased key lengths, more fields) 1978
- Output products and multiple library product control 1979
- Improved diacritic handling 1978
- Verification levels 1978-1979
- Resource accounting and statistics 1978-1979
- Cataloguing in pilot operation 1978, operational 1979
- Union Catalogues operational 1978-1979
BIBLIOCENTRE
- Acquired DOBIS (Version 1) from NL
- Cataloguing operational 1979
- Output products developed 1978+
- MARC conversion and loading via unload/reload 1978
- LIBIS Online purchase 1978 from University of Leuven
- Circulation operational 1979

* This chart has been modified with information from IBM Canada, Ltd. The original chart is taken from William L. Newman, et.al., "DOBIS, The Canadian Government Version," Canadian Library Journal, (August 1979) p. 181-194.

** Made available from IBM as Version 1, Release 0

*** Available from IBM as Version 1, Release 1

Fig. 1.1 Ancestry of various DOBIS versions.[1]

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[1] Ralph M. Shoffner and Mary A. Madden, The DOBIS and Washington Library Network Systems. . . , p. 105.

PART 2. SUMMARY OF RECOMMENDATIONS

PART 2. SUMMARY OF RECOMMENDATIONS.

2.1 RECOMMENDATIONS PERTAINING TO BCLN DOBIS FILE CONFIGURATION.

These recommendations define the overall file configuration that should be implemented by BCUC when it replicates the NL DOBIS system. Major replication issues such as the creation of a BCLN union file, the relationship between BCLN union records and source records, and the initial acquisition, and ongoing maintenance, of source records are addressed.

In general, the conclusion of this study is that the NL DOBIS system can be replicated without any major changes to its file configuration. As a result, BCUC will benefit from improvements that NLC has made to DOBIS for operation in a multiple-user environment. It will also ensure that BCUC can take advantage of future systems enhancements introduced by NLC. In the context of the replication project, adoption of the NL DOBIS file configuration will simplify local implementation and data base loading.

2.1.1 THAT BCUC adopt the NL DOBIS file configuration without any significant changes to the structure of the document or access point files at either the 'systems', 'local', or 'holdings' file levels. Only one minor change is proposed -- that the Miscellaneous Numbers access point file at the 'local' file level be activated to store UTLAS RSNs and other local numbers in BCUC members' records.

2.1.2 THAT BCLN files consist of union records in the 'systems' level files of the replicated DOBIS system with users' holdings and local information attached to the shared bibliographic record.

2.1.3 THAT source records be stored with the BCLN union file records in the 'systems' level files of the replicated BCLN DOBIS system.

2.1.4 THAT BCUC establish the initial source record component of the BCLN DOBIS data base by obtaining a copy of the entire NL DOBIS data base at the appropriate time during the Implementation Phase of the Replication Project.

PART 2. SUMMARY OF RECOMMENDATIONS.

2.1.5 THAT, after the initial data base load, BCUC continue to maintain the source record component of the BCLN DOBIS data base by the regular receipt of tapes from the appropriate national cataloguing agencies and other institutions as determined by the BCLN members.

2.1.6 THAT, after the initial data base load, BCUC use the DMIN loading facility and its matching and amalgamation algorithm for the ongoing off-line loading and updating of source records.

The four preceding recommendations relating to the acquisition and maintenance of source file records are based on the assumption that it will be necessary to maintain source records in the BCLN facility. At this time, there is no other option available. However, it is likely that a telecommunications network facility will be available in the near future, allowing access to remote data bases, and transfer of required records to the BCLN DOBIS data base. This alternative has been included in the form of a conditional recommendation.

2.1.7 THAT, if a telecommunications network is available that will enable BCLN libraries to search for, and transfer, source records from remote data bases, BCLN not acquire and maintain source file records locally.

PART 2. SUMMARY OF RECOMMENDATIONS.

2.2 RECOMMENDATIONS PERTAINING TO BCLN DATA BASE LOADING REQUIREMENTS.

These recommendations describe the procedure that should be employed to transfer BCUC files from UTLAS and to load them into a local BCLN DOBIS facility. Important implementation issues such as the matching and amalgamation of BCUC records, the retention of library-specific data, and the pre-processing of records in order to to achieve some degree of authority 'cleanup' are covered.

In general, this study concludes that it is desirable to undertake some systems development work during the Implementation Phase in order to load the BCLN DOBIS data base on a local facility. The recommended procedure is more efficient than other loading options that were investigated. It simplifies the logistics of transferring BCUC members from UTLAS to the local replicated facility. It also provides BCUC with more control over the loading of records and the subsequent content of the data base.

2.2.1 THAT BCUC UTLAS files be matched and amalgamated before being loaded into the BCLN DOBIS facility using the DOBIS unload/reload facility. Records should be matched on the basis of a sort key created for each record; the sort key should be based on the NL DOBIS matching algorithm.

2.2.2 THAT concatenation and changes to the files be accomplished during a preprocessing procedure which will result in the BCUC union records being constructed in the DOBIS unloaded format.

2.2.3 THAT NL DOBIS files be obtained in unloaded format and loaded simultaneously with the BCUC union files, but that the NL DOBIS bibliographic records not be concatenated with the BCUC bibliographic records. If a telecommunication link is available, then the NL DOBIS files should not be loaded.

2.2.4 THAT where duplicate BCUC records exist, the union record be chosen according to a pre-established hierarchy of libraries and the holdings for each library attached to the selected record.

2.2.5 THAT changes to the union record be made as required according to specifications established by BCLN users;

PART 2. SUMMARY OF RECOMMENDATIONS.

but that such changes be kept to a minimum.

2.2.6 THAT provision be made to allow use of local files when necessary to retain local data essential to a user's record, but that use of the local files be kept to a minumum.

2.2.7 THAT loading of the BCUC UTLAS records into the BCLN DOBIS system should include whatever authority cleanup is possible , as well as economically feasible , and can be accomplished in an acceptable period of time.

2.2.8 THAT if the BCUC data base has been loaded into NL DOBIS as part of the National Library's development of a national union catalogue, then BCUC should obtain a copy of the NL DOBIS files in DOBIS internal format, including BCUC's holdings, provided that NLC agrees to expand its load specifications to include BCUC's detailed holdings, and other fields required by BCUC members. These files would then be mounted on the BCLN DOBIS facility as the BCLN data base.

PART 2. SUMMARY OF RECOMMENDATIONS.

2.3 RECOMMENDATIONS PERTAINING TO IMPLEMENTATION STRATEGY.

The following recommendations are developed in PART 5. They relate primarily to the way in which the tasks necessary to achieve implementation will be organized.

In developing procedures to implement NL DOBIS, the major goal is to enable the replication to take place as quickly as possible; at the same time there is a need to ensure that the requirements for a BCLN DOBIS facility be met.

2.3.1 THAT steps necessary to accomplish systems developments and enhancements required for BCLN DOBIS be grouped into the following categories:

PRIORITY 1

This category includes those steps necessary to load the BCLN records into BCLN DOBIS. Location tables, and other user-defined tables, defaults, etc., will be established or modified in accordance with BCLN user requirements. It will also include additional systems enhancements which might require the unloading of the entire data base if they were carried out at a later date.

PRIORITY 2

This category includes changes identified as required during the Initial Users phase of the Implementation Phase. It also includes enhancements such as batch product modifications which, while not essential to implementation of the system, are important in meeting the requirement that the replicated facility provide an acceptable level of service.

PRIORITY 3

This category includes any further systems enhancements which, ideally, would be undertaken during the Implementation Phase if time and resources were available. Failing that, they will become the highest priority tasks during the

PART 2. SUMMARY OF RECOMMENDATIONS.

post-Implementation Phase.

PRIORITY 4

This category includes any further changes to the system which have been identified as desirable, but should be postponed until the post-Implementation Phase.

2.3.2 THAT BCLN include a clause in the replication agreement to co-operate on DOBIS, and related, systems development with NLC.

2.3.3 THAT in keeping with the recommendation to establish a co-operative systems development agreement, BCLN consult with NLC before undertaking any systems developments identified as Priority 3 or 4 in this study. BCLN and NL DOBIS should endeavour to benefit from each other's efforts rather than carry out parallel work.

2.3.4 THAT an Implementation Committee be established at the commencement of the Implementation Phase. This committee will be responsible for user-related policy decisions required during implementation. This group will consult with BCLN staff and appropriate BCUC committees ; it will also act as a liasion between them. When necessary, it will refer issues for resolution to the apppropriate BCUC committee.

The following recommendation is discussed in PART 9. It will be further developed in the Supplementary report.

2.3.5 THAT BCLN DOBIS begin its on-line operation with the transfer of three 'initial user' libraries from UTLAS to BCLN DOBIS.

PART 2. SUMMARY OF RECOMMENDATIONS.

2.4 RECOMMENDATIONS PERTAINING TO BATCH PRODUCTS.

PART 8 contains a detailed discussion of NL DOBIS batch product production in relation to BCLN batch product requirements. There is a need to provide BCLN members with the batch products required in their library; there is also a requirement to produce a BCLN COM union catalogue. At the same time, it is important that resources necessary to effect the transfer from UTLAS to BCLN DOBIS not be diverted unnecessarily to batch product development. This is particularly true during the Implementation Phase.

The recommendations on batch products address those issues. The first two propose a strategy for the implementation of BCLN DOBIS batch products. The third is based on a need to review the NL DOBIS report generator facility at the start of the Implementation phase. At that time more information will be available on its efficiency, and the BCLN hardware configuration. The other five recommendations pertain to specific batch products such as microfiche catalogues and cards.

2.4.1 THAT BCUC define one set of standard specifications for each of the batch products to be developed by BCLN DOBIS during the Implementation Phase. Library-specific variations within those standard products will be limited.

2.4.2 THAT BCLN standard batch products be developed according to the following levels of priority:

Essential to all users
Essential to some users
Desirable

2.4.3 THAT a re-examination of the alternatives for fiche production for BCLN libraries be undertaken as a PRIORITY 1 task during the Implementation Phase.

2.4.4 THAT BCLN adopt the scroll format for its standard microfiche catalogue products.

PART 2. SUMMARY OF RECOMMENDATIONS.

2.4.5 THAT the standard microfiche catalogue product provide for variation in choice of sequences that will reflect library-specific requirements.

2.4.6 THAT the BCLN standard microfiche catalogue product provide a relatively full record display format and a brief record display format. The full record format should appear in only one place. Typically, the full format is displayed under the main entry, or title, or in the register. The brief record display format, although restricted in content, should provide sufficient holdings information for the purposes of most general catalogue users.

2.4.7 THAT BCLN implement the NL DOBIS catalogue card parameters without undertaking any significant modification, except to define a standard A/V card format.

2.4.8 THAT BCLN base its standard magnetic tape product on the CANMARC Communications format.

PART 3. BCLN DOBIS FILE CONFIGURATION

PART 3. BCLN DOBIS FILE CONFIGURATION.

3.1 RECOMMENDATION TO ADOPT NL DOBIS FILE CONFIGURATION.

It is recommended:

- THAT BCUC adopt the NL DOBIS file configuration without any significant changes to the structure of the document or access point files at either the 'systems', 'local', or 'holdings' file levels. Only one minor change is proposed -- that the Miscellaneous Numbers access point file at the 'local' file level be activated to store UTLAS RSNs and other local numbers in BCUC members' records.

The recommendation to adopt the NL DOBIS file configuration is based on an evaluation of available information. The earlier studies did not identify any inadequacies, or recommend any changes, that required changes to the NL DOBIS file configuration. Furthermore, any problems identified in the current study can be overcome without modifications to the file configuration. After examining several alternatives, even the potentially sensitive issues of 'local' versus 'system' data and the relationship between BCUC and source records were best accommodated in the existing file configuration. Other options involved extensive systems development while providing only limited, or sometimes dubious, advantages.

Since its acquisition of DOBIS, NLC has made improvements to the system for operation in a multiple-user environment that are reflected in the NL DOBIS file configuration. They modified the 'holdings' level files so that all users share the same physical files. In other versions of DOBIS it is necessary to create a separate set of holdings files for each library. This increases the systems overhead required for the maintenance of those separate files. As BCLN DOBIS will also be supporting multiple users, BCUC should take advantage of the changes in the file organization that have already been implemented in NL DOBIS.

Accepting the NL DOBIS file configuration will simplify the entire replication process. Additional time and funding will not be required during the implementation phase to make systems modifications that could have been extensive.

It will also simplify the initial acquisition and loading of source records since they will be obtained through a 'dump' of the NLC DOBIS data base. Although some preprocessing of all records destined for the BCLN DOBIS data base will be necessary (see Part 4.), that work will be less complex if the NLC records

do not require modification to make them compatible with the 'local' file configuration. (The activation of the Miscellaneous Numbers access point file at the 'local' file level will not impact on the loading of source records; they will reside only at the 'systems' file level.)

Complete compatibility with the NL DOBIS file configuration also promises some long-term advantages. It will make record and/or data base sharing between the two DOBIS facilities easier to implement. It will also enable NLC and BCLN to share in on-going systems development. In this respect, BCLN will probably enjoy the benefits of an unequal partnership. NLC has already committed extensive resources to the continued enhancement of the DOBIS system at a level that BCLN would have great difficulty in maintaining on its own.

3.1.1 Qualifications.

The recommendation to adopt the NL DOBIS file configuration largely unchanged does not apply to user-defined systems variables such as code tables, system defaults, verification levels and user authorization levels. These will have to be modified to reflect BCUC practices and standards. Many of them are dependent upon policy decisions and will require input from BCUC members before systems modifications are carried out. Such changes should require no programming, but only the modification of systems tables. However, the changes will require a significant amount of time to carry out and must be completed before the data base is loaded. Provision for this work should be included in the implementation phase.

PART 3. BCLN DOBIS FILE CONFIGURATION.

3.2 DESCRIPTION OF THE BCLN DOBIS FILE CONFIGURATION.

3.2.1 Overview.

The basic premise of the DOBIS system is that data is entered and stored once to serve many functions. Data redundancy, if not eliminated entirely, is reduced to a minimum. A single copy of a record will be used by everyone, rather than each user maintaining a separate copy of that record in a separate computer file. The way in which information is stored in a DOBIS system also makes it possible for records to share data. For example, if fifty bibliographic records all use the same heading, that heading will only be stored once in DOBIS, but linked to all of those bibliographic records that contained it.

DOBIS achieves this by using multiple computer files to store bibliographic record information. A complete bibliographic record is not stored in one file; it is broken up, or 'exploded', and the parts are stored in different files according to their function (see Fig. 3.1). Pointers are used to connect those related parts; the whole bibliographic record is reconstructed when required for on-line display or batch product output.

Although there are numerous computer files in a DOBIS file configuration, they can all be generally classed as either document files, or access point files:

a. Document files contain miscellaneous bibliographic data that correspond closely to the purely descriptive portion of a cataloguing record. They are also used to store union, library-specific, and copy-specific, holdings information.

b. Access point files (APFs) contain data that is used in searching. These files serve as the on-line indexes to the DOBIS data base while also storing record information.

Pointers are carried in all document, and access point, file records to connect them to their related records in the system. A document file record with bibliographic description information will contain pointers to all of the APF records with its associated entry and title information. In turn, those APF records will store linkage information to document file records in which they are used. The bibliographic document file will also have pointers linking it to any document files with holdings information.

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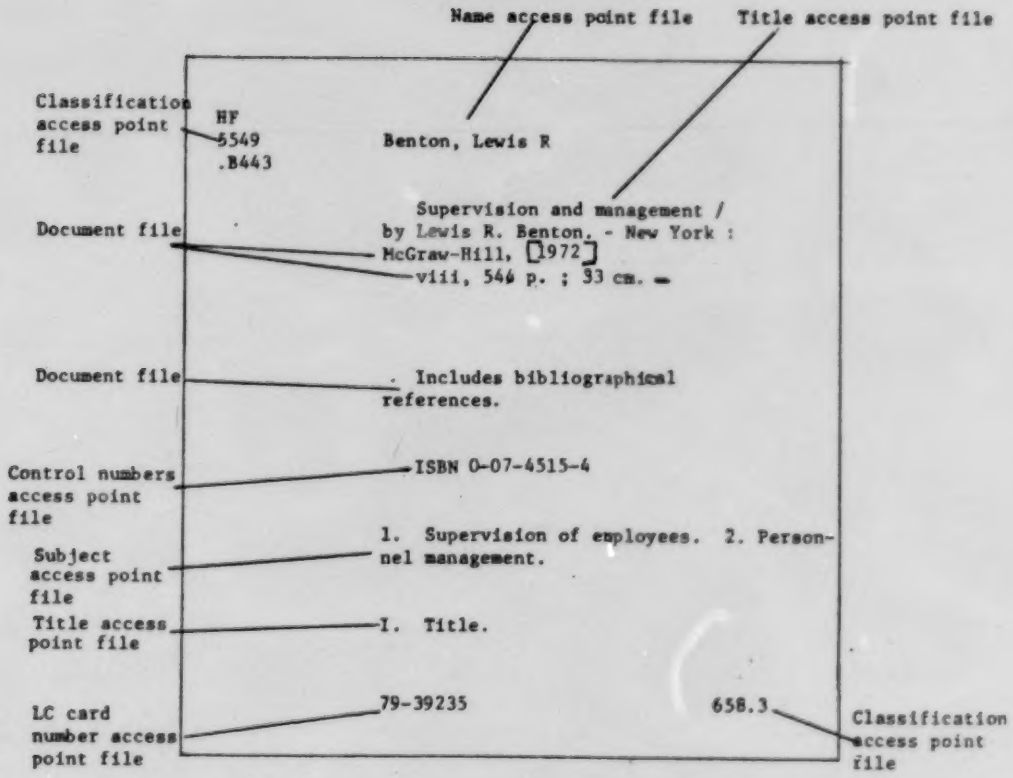

Fig. 3.1 Where Information Goes in DOBIS Files.[1]

[1] National Library of Canada. DOBIS: User Manual (2nd Working Draft) (Ottawa: 1978), pt. 1:4.

PART 3. BCLN DOBIS FILE CONFIGURATION.

Relationships between records are also established by the use of pointers. In NL DOBIS it is possible to create relationships betweeen equivalent English and French language cataloguing records for the same bibliographic item. It is possible to link different editions or forms of reproduction of a work. Serials can be linked to preceding and succeeding title entries. Many types of analytical entries, including series and multi-volume works, are also controlled by the relationships facility.

The BCLN DOBIS file configuration can be divided into three levels of files -- systems, local, and holdings. Both document and access point files are used at each level. The 'systems' level files will contain the main BCLN data base consisting of the BCUC union file records and all source file records. The 'local' level files will contain local, or variant, data belonging to individual BCUC members' records. The 'local' level document record will be linked to its related 'systems' level document record so that only the library-specific data will have to be stored at the 'local' level. The 'holdings' level files will store copy-specific information pertaining to each participating library's collection. The 'holdings' level document records will also be linked to the appropriate 'systems' level document records (see Fig. 3.2).

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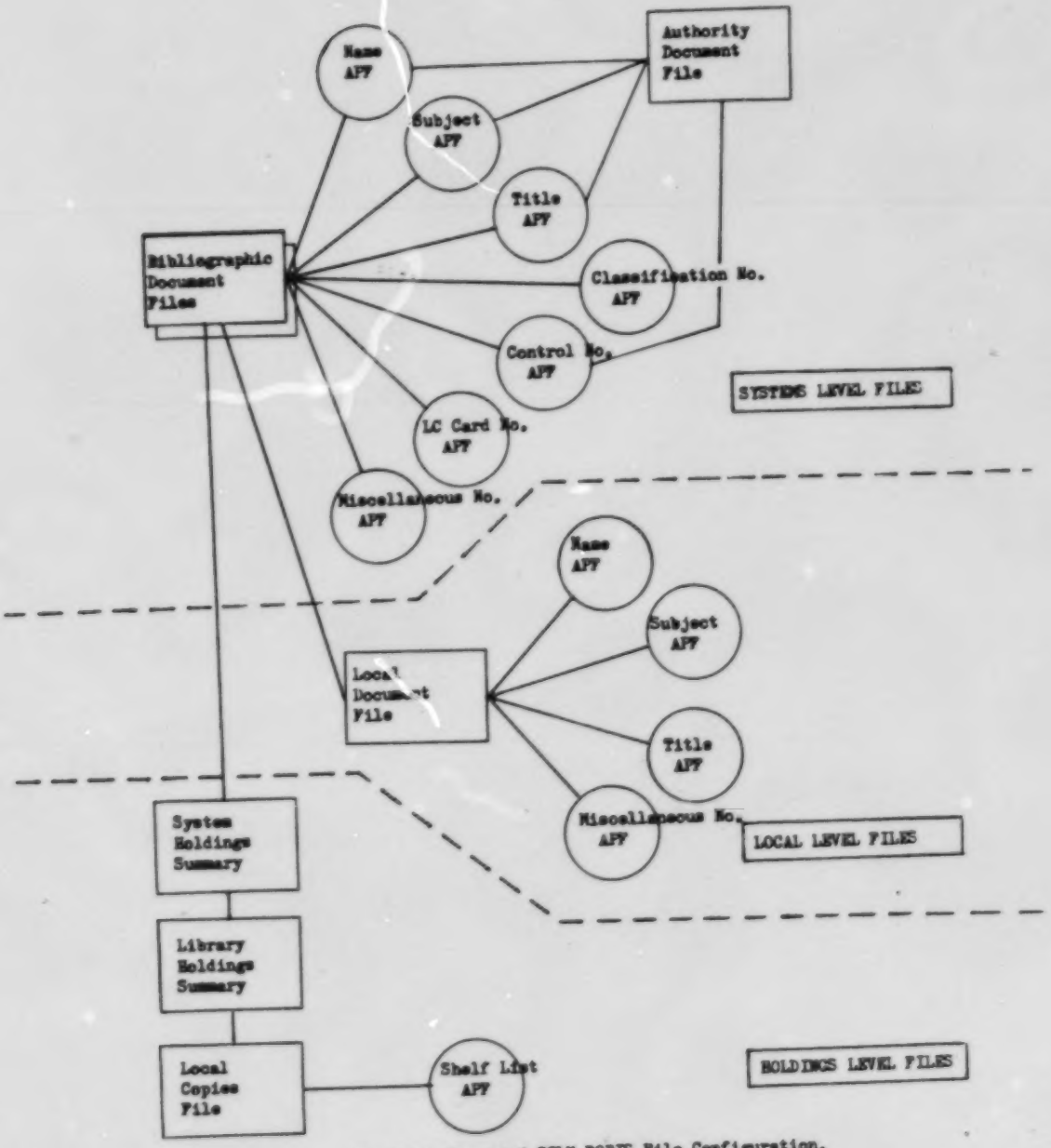

Fig. 3.2 Proposed BCLN DOBIS File Configuration.

PART 3. BCLN DOBIS FILE CONFIGURATION.

3.2.2 BCLN 'Systems' level files.

There will be three document files at the 'systems' level in the BCLN DOBIS system. Two of these will contain bibliographic information, and the third will be used for authority information. These document files will be the 'heart' of the entire BCLN data base as they will also contain pointers to the 'systems' level APFs, and to the document files at the 'local' and 'holdings' levels in the system.

The two document files containing bibliographic information are known as the primary bibliographic, and secondary bibliographic document files. The primary bibliographic document file will contain pointers to the first name and first title APF records associated with the bibliographic item. It will also store the date of publication and other miscellaneous data. This file is used to generate the short information display screen in DOBIS. The secondary bibliographic document file will contain most of the bibliographic information for a particular item. This is where the descriptive portion of a catalogue record -- imprint, pagination, physical description, notes -- is stored. It also contains pointers to all of the other document and APF records related to that item.

The document file for authority information will hold the history and note information that is often an important part of an authority record. The actual headings from authority records will be stored in the appropriate access point file but linked to the related records in the authority document file. The creation of an authority document file is a very recent modification to NL DOBIS. It was implemented to facilitate the loading of authority records and the eventual use of on-line authority control. NLC decided that it was more appropriate to store notes, and other miscellaneous, information from authority records in a separate file, rather than attempting to integrate them with the data in the access point files. This solution mirrors the way in which bibliographic records are stored in DOBIS.

There will be seven access point files (APFs), or on-line indexes, at the 'systems' level in the BCLN DOBIS system. Information from both bibliographic and authority records will appear in the APFs. Each APF record will consist of a basic data element such as a name, title, or standard number, and systems control information including pointers to the one, or more, authority and/or bibliographic document records associated with it. An APF record can be linked to both an authority and a

PART 3. BCLN DOBIS FILE CONFIGURATION.

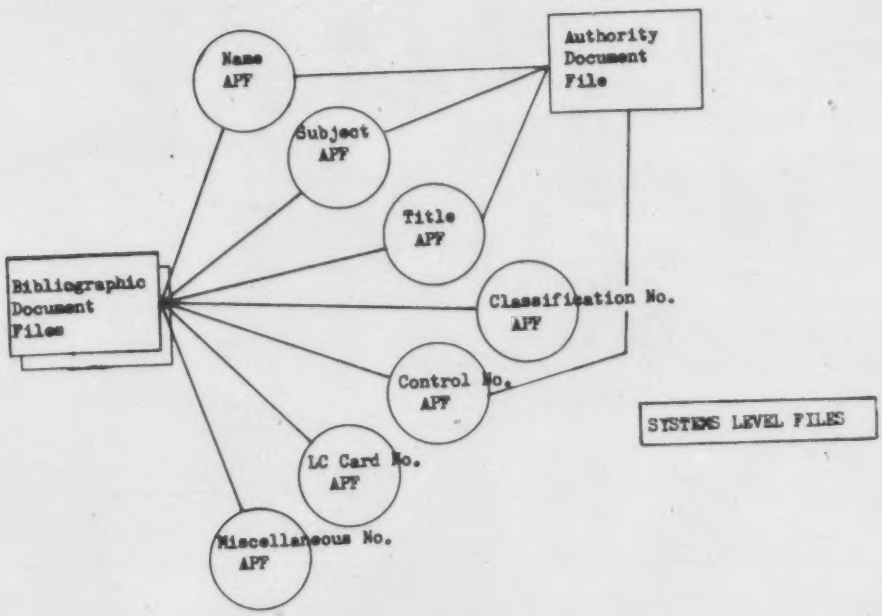

Fig. 3.3 Systems Level Files.

bibliographic record. It can also be linked to more than one authority or bibliographic record. (Remember that DOBIS avoids the storage of redundant data.) For example, if the name 'Smith, John A.' is used in fifty bibiographic records there will be only one APF record, but it will linked to all of those records.

The Name access point file will contain all personal, corporate and conference authors, plus the author portion of series entries. This information will be derived from both bibliographic and authority records. Corporate and conference names will be permuted to facilitate searching. Up to 18 names of all types can be attached to a bibiographic record.

The Title access point file will contain all types of title entries. This includes main and added titles, series titles, key

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titles, translated titles and others. Titles are also permuted. Up to 14 titles of all types can be attached to a bibliographic record.

The Subject access point file will contain headings from the most commonly used subject heading sources. This information will be derived from both bibliographic and authority records. Headings from different subject schemes are interfiled but they are identified by type. Up to 24 subject headings can be attached to a 'systems' level bibliographic record. (It is possible to use the 'local' level files for the storage of local subject headings.)

The Classification access point file will contain call numbers from source records such as LC call numbers and Dewey decimal numbers. It will also contain call numbers entered as bibiographic record information (as opposed to call numbers entered in the 090, or local holdings, field) by BCLN users. This file is actually divided into sections according to type of call number. That is, numbers from different schemes are not interfiled. It is necessary to specify type of call number while searching. Up to 5 'systems' level call numbers can be attached to a bibliographic record. Remember that the full call number for a library's copy of an item, including the Cutter number, is stored at the 'holdings' level.

The Control Numbers access point file will contain ISBNs, ISSNs, and others such as the Canadiana control number. During searching it is possible to specify the type of control number thus limiting the search. Otherwise, it is necessary to search the entire composite file. Up to 8 types of control numbers can be attached to a bibiographic record.

The LC Card Number access point file will contain Library of Congress card numbers. Although this number is supposed to be unique to a record, it is possible to attach up to 5 LC card numbers to a bibliographic record.

The Miscellaneous Numbers access point file will contain various numbers associated with some bibliographic items. This includes government document numbers, copyright numbers, Codens, and Canadiana accession numbers. It would also be useful to store in this file the UTLAS RSN (Record Sequence Number) of the records selected for the BCLN union file during the matching and amalgamation of the BCUC UTLAS records. (RSNs for all BCUC members' records loaded from UTLAS should also be saved, but in the 'local' level Miscellaneous Numbers APF for each library.) Up

to 20 types of miscellaneous numbers can be associated with a bibliographic record.

3.2.3. BCLN 'Local' level files.

There will be one document file at the 'local' level in the BCLN DOBIS system. It will be similar in structure to the 'systems' level bibliographic document files. However, it will contain only local, or variant, information for an individual BCLN library. Whenever possible information should be stored in the union record at the 'systems' level. The 'local' level document record does not constitute a 'stand alone' bibliographic record but is linked to the related 'systems' level bibliographic record.

There will be four access point files at the 'local' level -- Name, Title, Subject, and Miscellaneous Numbers. This is a slight deviation from the NLC DOBIS file configuration which only uses the first three APFs. However, since many BCUC members are currently inputting local accession numbers and/or local system record numbers into their UTLAS records, it is desirable to activate the Miscellaneous Numbers APF for this purpose. It is also a logical place to store the RSNs for each BCUC library's UTLAS records.

The addition of the Miscellaneous Numbers APF is a straightforward systems task. DOBIS already has the capability to set up additional APFs at the 'local' level. Furthermore, it will not affect the loading of the NL DOBIS data base into the BCLN DOBIS facility.

The 'local' level APFs will be identical in structure to the 'systems' level APFs. They will be linked to the 'local' level document record and provide access to it while also storing local, or variant, information for a particular library.

The 'local' level files will permit BCUC members to maintain local, or variant, information in BCLN DOBIS, but they should be used sparingly. DOBIS has been designed as an integrated, or union, data base system and there are some limitations in the use of local files. First, an individual set of 'local' level files must be established for each library that requires them. Once set up, those files can be searched or accessed only by the library that is maintaining them. Second, there is no linkage between equivalent 'systems' and 'local'

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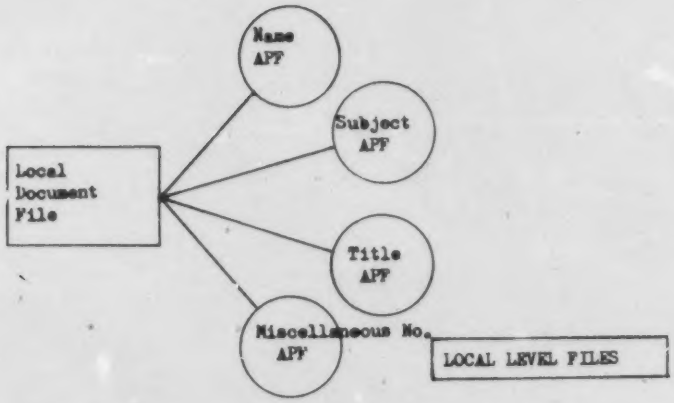

Fig. 3.4 Local Level Files.

level APFs. This means that it would be necessary to conduct a double search at both levels, especially for a library that selectively prefers local headings in some instances, but also uses 'systems' level, or union, headings at other times.

Some library-specific information such as local notes fields and local accession numbers is handled adequately by the 'local' level files. In fact, this is the most appropriate place for that data to be stored. Although it is unique information it will not conflict with 'systems' level bibliographic and authority records.

3.2.4 BCLN 'Holdings' level files.

There will be three document files at the 'holdings' level of the BCLN DOBIS system. Two of these document files provide holdings summary information while also acting as a link between 'systems' level bibliographic information and copy-specific records at the 'holdings' level. The System Holdings Summary document file stores pointers for all of the local copies records that are associated with a bibliographic item represented in the 'systems' level files. It provides a 'union catalogue' means of

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access to holdings information as it displays all of the library locations holding one or more copies of a particular item. A user can access this file, select a location, and display its local copy records. The Library Holdings Summary document file is an intermediate file between the System Holdings Summary file and local copy records associated with a specific library. It provides a library holdings summary by bringing together all of a library's local copies records for a bibliographic item.

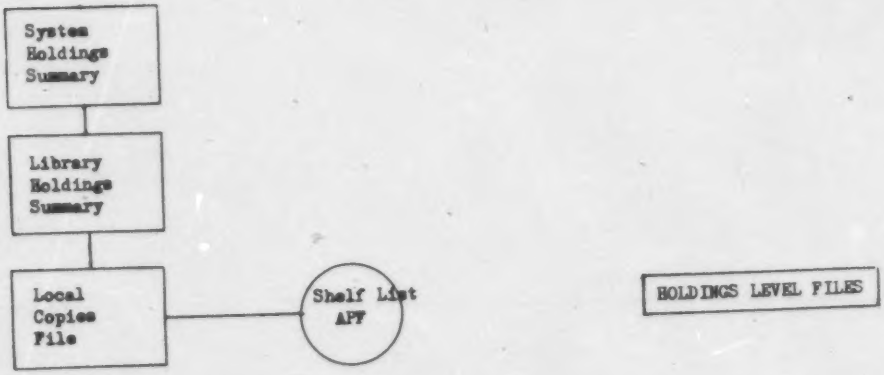

Fig. 3.5 Holdings Level Files.

Users will be able to input holdings summary information directly into the System Holdings Summary document file. However, they will not be able to add data directly to the Library Holdings Summary file as it is automatically generated and maintained by the NL DOBIS system. The changes are made indirectly by making modifications through the local copy routine.

The Local Copies File will be the third document file at the 'holdings' level of the BCLN DOBIS system. This file will contain copy-specific information associated with bibliographic items stored in the 'systems' level files. For example, if a library has five copies of a particular work there will be a separate

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record[1] for each copy in the Local Copies document file.

There will be one access point file -- the Shelf List APF -- at the 'holdings' level of BCLN DOBIS. It will act as the equivalent to the traditional library shelf list file and provide access to the local copies file by the local call number. This file is also logically subdivided by library so it appears as if a separate shelf list APF exists for each library. When a particular library searches this index file it will access only its records in the local copies file.

A significant difference between NL DOBIS and other DOBIS versions is NLC's decision to store all local copies records in one physical file instead of establishing separate files for each library. However, records are flagged according to the library that owns them so it will appear to each BCLN library that their records are actually in a separate file whenever they access them. NLC will be undertaking the necessary development work on LIBIS in order for it to interface with this altered file structure.

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[1] NL DOBIS does not create a separate record for each physical item in a multi-volume work or serial. Only one local copies record will exist for each set. However, NLC plans to implement improved control over such items in the future; then it will be possible to record data pertaining to a particular volume within a set.

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3.3 RECOMMENDATION TO CREATE A BCLN UNION FILE.

It is recommended:

- THAT BCLN files consist of union records in the 'systems' level files of the replicated DOBIS system with users' holdings and local information attached to the shared bibliographic record.

The recommendation that BCUC members' records be stored as amalgamated union records in the 'systems' level files of the replicated BCLN DOBIS system is largely a consequence of the basic decision to replicate DOBIS.

DOBIS was designed as a completely integrated data base. Its file structure and arrangement avoid the inefficiency and redundancy of a system that stores each user's records in separate files. DOBIS does make provision for 'local' files but they are intended to store variant data only and as discussed above the system imposes some deliberate limitations on their use. In short, the establishment of separate bibliographic files for each BCLN participant would defeat the entire purpose of replicating a DOBIS system.

Furthermore, All current BCUC members are already participating in the development of a union file although each library maintains records in a separate UTLAS file. Participants have agreed to certain standards and practices in the creation of catalogue records. In fact, there is already considerable record sharing amongst BCUC members.

A union data base will make it considerably easier for members to share data and to benefit from each others' work. It will make the adherence to, and enforcement of, standards a simpler task. It will also reduce the complexity of on-line searching and cataloguing because users will not need to choose from among many copies of the same record. Finally, the generation of union products such as a BCLN COM catalogue, will not require additional processing to identify multiple copies and subsequently amalgamate holdings information to the 'preferred' bibliographic record as is presently necessary on UTLAS.

Nonetheless, for economic reasons it will be necessary to accept some duplication in the BCLN union file. A certain proportion of duplicate records will result from the initial data base load. The creation of the BCLN union file from the many BCUC files at UTLAS will be a major task. It will involve some complex

processing to match duplicate records and merge them in an acceptable fashion. Some duplicates will not be identified because of minor inconsistencies, or mistakes in coding or keying.

Duplicate records will continue to make their way into the BCLN union file after the system is implemented. This is inevitable in a large interactive data base with many libraries using the system regularly.

Duplicate information in the access point files is 'cleaned up' by the DOBIS file maintenance programs. Nonetheless, it will still be necessary for BCLN to consider some ongoing and systematic measures for identifying unwanted duplicate bibliographic records and removing them from the data base.

It will also be necessary to permit some deliberate duplication of BCLN union file records in those instances where current BCUC standards permit significant variations in the creation of bibliographic records. For example, public libraries in BCUC often use a pseudonym as the main entry while academic libraries prefer an established form of name. The 'local' level files could be used to deal with this situation. However, it would be preferable to permit the existence of two almost identical records (only the choice of main entry would differ) in the BCLN union file because of systems limitations in using 'local' level files for entry information.

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3.4 CONDITIONAL RECOMMENDATION FOR ACQUISITION AND MAINTENANCE OF SOURCE FILE RECORDS.

The acquisition and ongoing maintenance of source file records in the BCLN DOBIS data base will require a significant proportion of system's resources. Ideally, BCLN would not have to maintain any source records if remote data bases could be accessed by BCLN users and required source records transferred through the communications network.

At this time, such a facility is not in place, but trends in telecommunications network development indicate that 'host to host' linkages and standardized communications protocols will soon be a reality. As it is possible that such developments could occur during the period between the completion of this study and the commencement of the Implementation Phase it is recommended

- THAT, if a telecommunications network is available that will enable BCLN libraries to search for, and transfer, source records from remote data bases, BCLN not acquire and maintain source file records locally.

There will be significant savings during the Implementation Phase and for ongoing operation of the BCLN facility if source file records do not have to be loaded and maintained locally. Transferring source records from remote data bases would be a more cost-effective alternative.

The feasibility of the above recommendation is very conditional at this time. Therefore, the following sections on the acquisition and maintenance of source file records assume that BCLN DOBIS will have to maintain such records locally for an indefinite period. However, if such a facility does not become available until after BCLN DOBIS is operational, the above recommendation will still be valid. At that time BCLN should purge unused source file records from the local data base and begin to access remote data bases for source records.

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3.5 RECOMMENDATION ON RELATIONSHIP OF BCLN UNION FILE RECORDS AND SOURCE FILE RECORDS.

It is recommended:

- THAT source records be stored with the BCLN union file records in the 'systems' level files of the replicated BCLN DOBIS system.

This recommendation is also a consequence of the basic decision to replicate DOBIS. Several possible alternatives were investigated, but it was concluded that they were not feasible, or desirable, when considered in conjunction with the DOBIS system and BCUC requirements.

The storage of source file records and BCLN union file records in the same files is the best solution in a DOBIS system. DOBIS concepts such as eliminating redundant data and having a single copy of a record serve many purposes and users also apply to source records. On-line searching and subsequent use of those records would be very awkward unless they were also available in the same 'systems' level files as BCLN union file records.

Separation of source file records and BCLN union file records would have necessitated some major systems development. It is possible to store source file records in separate files, or even in a 'mirror' DOBIS system (see Part 3.5.2). But such an approach would involve some local systems development, especially if rekeying search commands and increased cataloguing time were to be avoided. Furthermore, the potential advantages of separating source file records from BCLN union file records are not significant enough to justify this development.

Although the BCLN union file records and source file records will be stored in the same 'systems' level files, it will be possible to protect the former from the automatic off-line updating of source records. NL DOBIS uses a system of verification levels and protection codes. Verification levels indicate the quality of the bibliographic data. They are defined according to a combination of policy standards and source of the record. For example, data with a verification of authenticated in NL DOBIS is of the highest quality. It uses AACR2 choice/form of entry and/or description, has full MARC content designation, and adheres to all agreed upon systems standards. It is possible for different parts of a bibliographic record to be assigned different verification levels. Protection codes will protect data created or modified on-line from subsequent off-line update.

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These will have to be modified for the BCLN DOBIS data base so that BCLN union file records are both preferred and protected.

3.5.1 Duplication between source file records and BCLN union file records.

As a consequence of the recommended procedure for the initial data base load (see Part 4.), duplication between BCLN union file records and source file records will occur. The decision to accept some duplication will simplify the initial data base load. It will also eliminate the need for additional costly and time-consuming preprocessing during the implementation phase.

However, once the system is operational and source record tapes are being received regularly, the recommended DMIN loading facility (see Part 3.5.4) will prevent most additional duplication from occurring.

Much of the duplication that will result from the initial data base load will not be evident to most users. Identical heading, and other access point, information will not be repeated in the APFs because DOBIS merges it during file maintenance processing, but duplicate document records will be stored and displayed. However, the system also displays verification level of that data on the 'short information' screen so that users will be able to choose the correct copy (i.e. BCLN union) of the record.

3.5.2 Storage alternatives for 'source' file records.

As part of this study, several alternatives for the storage of source file records were considered but finally rejected in favour of the recommended option. One option was that source records would be stored in a separate set of files that were also accessible on-line. After some investigation, it was determined that such an approach would require an extensive amount of systems development if, in fact, it was technically feasible within the constraints of a DOBIS system.

College Bibliocentre has implemented a 'dual' DOBIS system which comes relatively close to this concept of source files stored separately but available on-line in conjunction with local records. They have mounted two complete versions of DOBIS on their computing facility. One contains Biblicentre records, the other contains source file records.

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Although they have undertaken some local development work that permits them to transfer records from the one system to the other, there are a number of limitations in their system. It is necessary to use a different terminal; access the 'source' DOBIS version separately; and repeat the entire search for an item. Transfer requests are processed in a batch mode and some time elapses before the record is available for use in the 'Bibliocentre' DOBIS version.

College Bibliocentre felt that they would be able to improve their system when CICS 1.5 is released by IBM. This would make it possible for them to run both DOBIS systems under the same controller. Both searching and record transfer from one system to the other would be easier.

However, this option is not feasible for BCLN DOBIS at the present time. As the Bibliocentre DOBIS is significantly different from the NL DOBIS in several respects, it would not be possible to make use of their systems enhancements 'as is'. Therefore, a significant amount of local systems development would be required before BCLN DOBIS was implemented. Furthermore, such an approach would require a double search and additional time on the part of the user to transfer records. Finally, there would be additional systems overhead in maintaining 'dual' DOBIS systems.

Another option is that BCLN DOBIS not maintain any source records in the local data base. This possibility has already been discussed in Part 3.4 and, as recommended, it should be preferred as soon as the telecommunications network is available.

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3.6 RECOMMENDATIONS FOR ACQUISTION AND MAINTENANCE OF SOURCE FILE RECORDS.

3.6.1 What is meant by 'source records'?

In the BCLN DOBIS data base, the term 'source records' will refer to all records that have not been used, or created, by BCLN members. The data base will contain both bibliographic and authority source records. It is likely that most of these will originate from national cataloguing agencies.

However, it is also possible that BCLN will exchange, or acquire, machine-readable records from other libraries, library consortia, and bibliographic utilities. These will also be source records in the context of the BCLN DOBIS data base.

3.6.2 Recommendation for establishment of the initial source record component of the BCLN DOBIS data base.

It is recommended:

- THAT BCUC establish the initial source record component of the BCLN DOBIS data base by obtaining a copy of the entire NL DOBIS data base at the appropriate time during the Implementation Phase of the Replication Project.

This recommendation requires little justification. Basically, it enables BCUC to acquire easily and inexpensively an immense data base that took NL DOBIS several years to load. In light of NLC's willingness to make a copy of its data base available, other alternatives such as BCUC acquiring source record tapes from various originating agencies and loading them locally were not explored.

The method by which BCLN will acquire the NL DOBIS data base is quite simple. At an appropriate time during the implementation phase of the replication project, NLC will produce tape copies of the disks on which their data base is stored and send them to BCLN. The records will be in the DOBIS internal record format so they can be copied directly onto the BCLN DOBIS disk packs creating an 'instant' data base of source records. (It will be necessary to perform some additional local preprocessing of the NL DOBIS records in order to load BCLN records. see Part 4.)

At this point, it is difficult to state the exact number and type of source records that BCLN will acquire in their copy of

the NL DOBIS data base. NLC is still in the process of loading source records and their future loading schedule is very tentative. In addition, BCUC still requires final approval of the replication project before a definite timetable for the implementation phase can be established. A difference of several months could mean a difference of several hundred thousand records in the NL DOBIS data base.

Some current figures on the size of the current NL DOBIS data base are available and some projections are possible. As of December 9, 1980 there were 1,401,863 records in the NL DOBIS data base. Almost all of these records were CANMARC and LC MARC records. By early 1981, NLC will have completed the loading of retrospective LC MARC records. There will also be an increasing number of unique records originating from federal libraries using NL DOBIS. For example, about 86,000 CISTI records from UTLAS will also have been loaded by early 1981. There will probably be somewhere between two and three million bibliographic records in the data base when BCLN is ready to acquire a copy.

NLC also plans to commence loading authority records into the NL DOBIS data base during the 1981/82 fiscal year. Depending on the exact timing of the BCUC replication project, it is likely that the BCLN DOBIS data base will receive some, or all, of those authority records.

3.6.3 Recommendation for choosing source record files for BCLN DOBIS.

Once the BCLN DOBIS facility is fully operational, it will be necessary for the network to maintain the source record component of the data base. BCLN will be able to select from a wide range, and type, of source record files. The copy of the NL DOBIS data base will contain records originating from between ten and thirty sources. Although there will be no question of continuing to maintain CANMARC and LC MARC source records, it is likely that some of the source files that arrive as part of the NL DOBIS data base copy will not be updated. In addition, there will be interest in acquiring and maintaining source record files that are not in the NL DOBIS data base. It is recommended:

- THAT, after the initial data base load, BCUC continue to maintain the source record component of the BCLN DOBIS data base by the regular receipt of tapes from the appropriate national cataloguing agencies and other institutions as determined by the BCLN members.

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The qualifying phrase, "as determined by the users", requires some explanation. It will be necessary for BCUC members to decide collectively what source records should be made available in the BCLN DOBIS data base. Although essential source record files should be determined during the implementation phase, it is not imperative that all desirable source record files be agreed upon during that time. It will be possible to acquire retrospective source record files and load them after BCLN DOBIS is operational.

Two general issues -- size and duplication -- will have to be addressed during the selection of source record files. The size of the source record component of the data base will be a 'two-edged sword'. If numerous source record files are available the amount of original cataloguing that BCLN users must undertake will be reduced. However, a large data base will also increase systems 'overhead' and costs. For example, a projection based on the premise that BCLN DOBIS would continue to maintain all of the source record files in its copy of the NL DOBIS data base, plus provision for some additional source record files, indicates that by April, 1985 there would be almost four million records in the source record component of the data base (see Appendix B). It will also be necessary to determine a policy on duplication of source records. The matching and amalgamation algorithm which is part of the DMIN loading facility can merge duplicates, if such action is deemed desirable.

There is an additional issue with respect to authority source records that must be resolved by BCUC before any are loaded. At present, NLC's order of authority records to be loaded in NL DOBIS is different from the preferred order of authority records that BCUC is committed to by its participation in SHARAF. At this time it cannot be determined what authority source records will be present in NL DOBIS data base at the time BCUC is ready to receive a copy of it. This issue will have to be dealt with during the implementation phase.

3.6.4 Recommendation for ongoing maintenance of source records in BCLN DOBIS.

It is recommended:

- THAT, after the initial data base load, BCUC use the DMIN loading facility and its matching and amalgamation algorithm for the ongoing off-line loading and updating

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of source records.

Although this approach was not recommended for the initial data base load (see Part 4) it has several advantages when used to maintain the source record component of the data base.

A major advantage of the DMIN loading facility is that NLC is incorporating a matching and amalgamation algorithm into it. This algorithm compares records being loaded off-line with those already in the data base. When it discovers a duplicate it will determine whether the new record should be discarded, merged with the existing record in the data base, or completely replace it. In order to determine what action should occur, it not only compares data in both records, but also checks verification levels and protection codes. This mechanism will protect BCLN union file records from automatic update because they will have higher verification levels and protection codes than incoming source records. In addition, it can also be used to control duplication among source records.

It may also be possible to use the matching and amalgamation algorithm in the DMIN loading facility to load the machine-readable data bases that some new BCLN members will possess. If the records in such data bases contained sufficient information to construct an adequate matching key, they could be pre-processed and loaded against the existing BCLN DOBIS data base. Incoming records that matched with an existing record would have their holdings information attached to the BCLN union file record. Non-matches could either be rejected or loaded 'as is'.

The limitations of the DMIN loading facility are not as severe when used for loading a smaller number of records on an ongoing basis. The DMIN loading of records is carried on as a 'background' operation to regular on-line activity in DOBIS. That is, off-line records are converted into the internal DOBIS format and loaded in a steady stream at the same time as other users are adding records and carrying out other on-line activities. It is a slow loading method, but it does make efficient use of computer resources because it utilizes any processing capability unused by on-line tasks. Source records will be received regularly and in numbers that can be adequately processed by the DMIN facility.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

4.1 INTRODUCTION.

This part of the report addresses the creationof the initial BCLN data base. At present, each library has its own machine-readable file of catalogue records at UTLAS. From these files will be created a union file of unique catalogue records, with holdings for all owning libraries attached. In devising a method for creating this union file, several criteria needed to be met:

- The quality of the existing data base must be preserved.
- Holdings information for individual libraries must be retained.
- Essential information in libraries' records must be carried over to the new system.
- The process must be completed within a reasonable length of time.

While it will not be possible to preserve each library's data, the procedure described on the following pages will produce a good union catalogue within a reasonable time and cost frame.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

4.2 GENERAL RECOMMENDATIONS.

An examination was made of the available alternatives for creating a BCLN DOBIS union file from the individual BCUC library files now resident at UTLAS. On the basis of this examination, the following recommendations are made:

4.2.1 ▪▪ THAT BCUC UTLAS files be matched and amalgamated before being loaded into the BCLN DOBIS facility using the DOBIS unload/reload facility. Records should be matched on the basis of a sort key created for each record; the sort key should be based on the NL DOBIS matching algorithm.

4.2.2 ▪▪ THAT concatenation and changes to the files be accomplished during a preprocessing procedure which will result in the BCUC union records being constructed in the DOBIS unloaded format.

4.2.3 ▪▪ THAT NL DOBIS files be obtained in unloaded format and loaded simultaneously with the BCUC union files, but that the NL DOBIS bibliographic records not be concatenated with the BCUC bibliographic records. If a telecommunication link with NL DOBIS is available, then the NL DOBIS files should not be loaded.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

4.2.4 Definitions.

The following definitions are presented here in order to clarify these recommendations.

DOBIS provides two methods for entering data into its files from external machine-readable sources:

a. DMARC input. (DMIN).

> Under this method the incoming records are converted to a DMARC format. As background (See Part 3.6.4) to other DOBIS functions, input records are read and entered into the system files. This process requires less data preparation than the re-organization utility, but it 'requires on-line CICS operation, which might be less efficient'. [1]

b. DOBIS reorganization utility.

> Under this method, the incoming records are broken into the individual access-point and document file entries, which must be merged with the backup unloaded versions of the on-line file to produce composite unloaded files that can be processed by the DOBIS file reorganization utility. The programs performing this conversion must keep track of the connections between the file entries, eliminate any duplicated file entries, and perform any required permutations. This method might be used to add massive amounts of data to a DOBIS data base. It would be particularly useful for merging two existing DOBIS data bases. [2]

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[1] IBM Corporation. Installed user program. (Waltham, Mass.: 1980), p.17.

[2] Ibid.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

4.3 DESCRIPTION.

In order to create a union file of acceptably high quality, the individual BCUC UTLAS files will require considerable preprocessing before being loaded into the BCLN DOBIS database. What follows is a list of the steps necessary to achieve this. The justification for proceeding in this manner is given in the following sections.

STEP 1: Individual BCUC library files would be obtained on tape from UTLAS.

STEP 2: A sort key would be created for each record from the appropriate data (see Part 4.6.1). The BCUC files would be sorted on the basis of this key.

STEP 3: BCUC records would be matched on the basis of the sort key and other specified criteria.

STEP 4: From among matching records, a union record would be selected.

Predetermined fields from the other matching records would be attached to this union record.

Other fields would be selected as required for the local files.

Holdings for all libraries would be attached to the union record.

The RSN for the chosen record would be selected for the system level Miscellaneous Numbers APF; other RSN's would be retained for the local level Miscellaneous Numbers APF.

Exception reports would be produced for questionable matches. These records would be loaded into the data base as non-matches.

STEP 5: The union record, together with holdings and other identified data would be split into temporary access point, document, holdings and local files to correspond to the DOBIS file structure. Appropriate pseudo-pointers would be created.

The system level names would be passed against an authority file; names which are 'see' references would

be replaced with the corresponding heading.

STEP 6: The DOBIS files would be unloaded.

STEP 7: Using the DOBIS unload/reload facility, the BCLN files, together with the off-loaded NL DOBIS files, would be loaded into the BCLN facility.

The flow chart in Fig. 4.1 shows schematically how the BCUC data base load would proceed.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

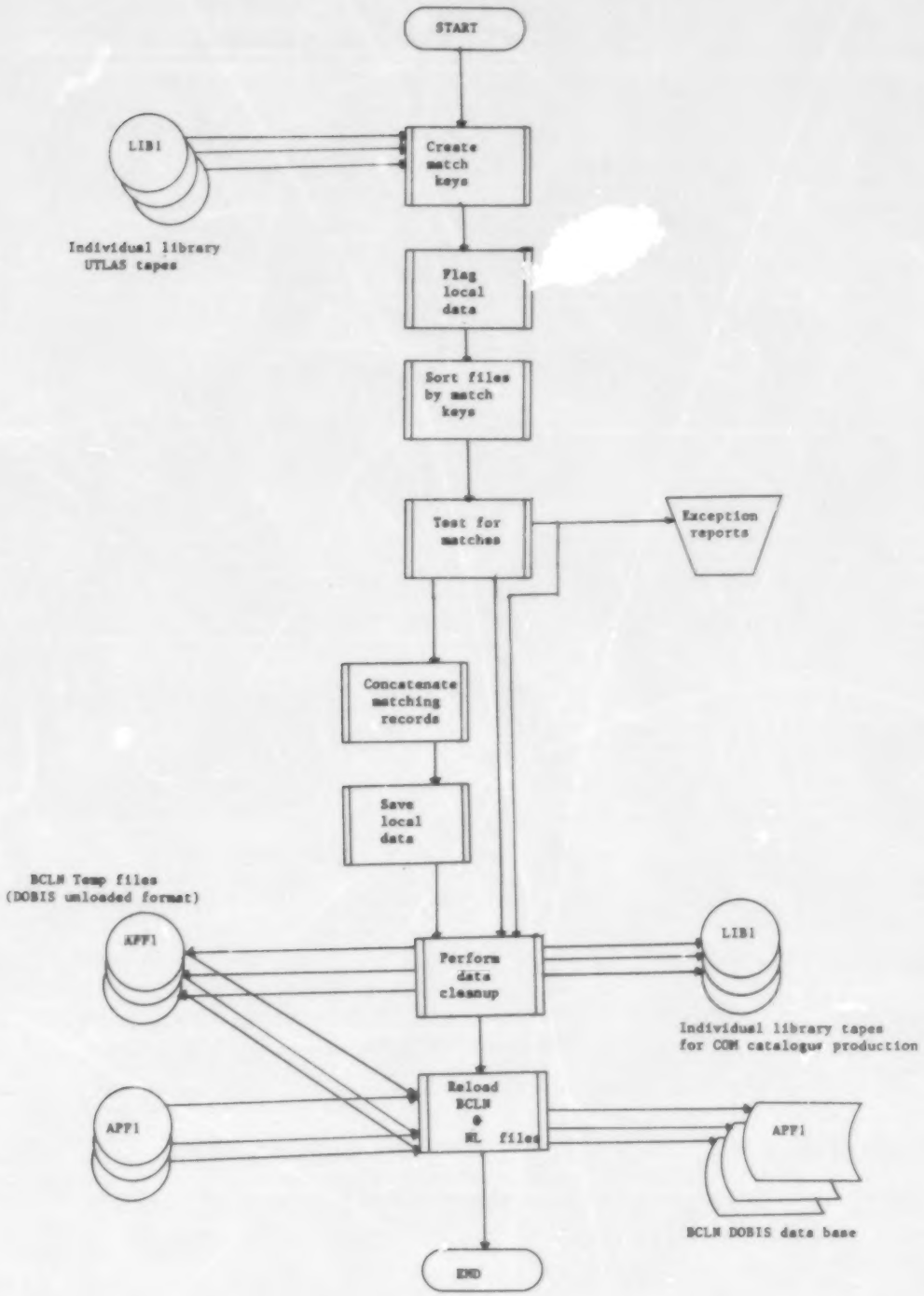

Fig. 4.1 Schematic diagram of how BCUC data base load would proceed.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

4.4 RATIONALE FOR THE PREFERRED DATA BASE LOAD PROCEDURE.

Alternatives to the recommended data base load procedure were examined. The most significant possibilities are outlined below.

4.4.1 Load individual BCUC user files against the NL DOBIS data base.

BCUC UTLAS files could be obtained and matched sequentially using NL's matching algorithm, and the DOBIS DMIN facility used to load the records directly into the NL DOBIS data base. Holdings would be loaded for 'matches' and complete records for 'non-matches'. Each NL DOBIS file would then be copied to disk to be used on the BCLN DOBIS facility.

The advantage of this method would be that it would take place during the period when the BCLN DOBIS facility was being established. Further, the software has already been developed to do the work, and it will have been tested on another UTLAS file (CISTI's) by the time BCUC wishes to begin loading.

A major disadvantage of this approach is the expected time to complete the loading of the records. NL DOBIS uses the DMIN facility to load records into its already large file, loading at most 200,000 records per month. Given BCUC's projected size of 1,600,000 by 1982 , it is very optimistic to expect that the BCUC records would be loaded in a span of eight months. In the NL DOBIS loading facility, the matches form part of the DMIN routines, along with NL's amalgamation procedure. The introduction of the matching and amalgamation routines into DMIN will increase the loading time even further. It is possible the long load time would delay the implementation of BCLN DOBIS. Furthermore, during this period, BCUC would be continuing to create and modify records on UTLAS; thus there would be a logistics problem because the records created or modified at UTLAS during the months of the load would have to be loaded after the initial BCUC files. Finally, BCLN would be competing with other jobs for priority at the NL facility, and would have little control over the rate at which the load would be accomplished.

The amalgamation policies for NL DOBIS are established by the NL DOBIS user group. In most cases, the policy is to accept the existing record and fields 'as is' , although certain information may be added to the 'matched' record subject to the relative verification levels of the incoming and pre-existing records. Generally speaking, the information to be added would be subject headings if none were present, certain names, and so on.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

A description of NL's amalgamation process will be made available to the BCUC Project Office. The implication of this is that for BCUC records being batch loaded, BCUC holdings would be added to existing records. Although this would not necessarily be disadvantageous, three areas should be of concern if this approach is to be adopted.

First, in many NL DOBIS records input by the Union Catalogue of Books division, untraced series are recorded as notes; this is in contrast with the BCUC practice of tracing all series. Further, these series notes cannot be machine-identified even if NL agreed to replace series notes by series entries. The result, then, would be the loss of traced series for many BCUC records.

Another problem is that in many instances, subject headings are not coded in the NL DOBIS records, an unsatisfactory situation for BCUC member libraries. With agreement from the NL users, subject headings could be added to the records during the initial machine load.

A third concern is that during the amalgamation process, holdings are added to 'hit' records at the system summary level rather than at the copy level. Again this could be resolved during the initial load if agreement were reached.

Nevertheless, it is recommended

- THAT if the BCUC data base has been loaded into NL DOBIS as part of the National Library's development of a national union catalogue, then BCUC should obtain a copy of the NL DOBIS files in DOBIS internal format, including BCUC's holdings, provided that NLC agrees to expand its load specifications to include BCUC's detailed holdings, and other fields required by BCUC members. These files would then be mounted on the BCLN DOBIS facility as the BCLN data base.

The justification for this recommendation is that there would be considerable savings both of time and money. While recognising the great compromise in terms of reduced quality of data that this would represent, we feel that the savings involved make this a justifiable approach.

4.4.2 Mount a DOBIS facility and NL DOBIS files elsewhere and load BCUC files against it using DMIN.

It might be possible to contract with NL or some other facility to mount a copy of NL DOBIS and the NL DOBIS files, and

to load BCUC's file against this copy. This would then be off-loaded and installed on BCLN's DOBIS facility once the local hardware was in place.

This would have three advantages over loading directly into the NL DOBIS file. It would allow BCUC to specify what amalgamation procedure was to be used (for example, the BCUC record could completely replace the NL DOBIS record). At the same time, BCUC files would have been merged with the DOBIS data base. Further, BCLN-defined defaults could be used for various fields; this could be important, for example for verification levels and protection codes. BCLN, in its data base, may well require that BCLN records not be replaced by corresponding source record updates.

The slow load rate of the DMIN process would still be a problem. On the other hand, the load might be accomplished more quickly if the system were dedicated to this task. At the same time, over the period of months required to accomplish this load, the BCUC files at UTLAS, as well as the NL DOBIS files will have been growing, and the growth will not have been reflected in the replicated files. Further, this approach would depend on the availability of a facility on which to accomplish the load.

4.4.3 Contracting College Bibliocentre to perform the data base load.

In its implementation of DOBIS, College Bibliocentre developed loading programs to convert their records from UTLAS tapes to their internal DOBIS structure. By using the DOBIS unload/reload capability developed by IBM for use in loading large data bases, College Bibliocentre was able to accomplish their data base load in a considerably shorter period of time once the IBM software had been modified to suit their needs. Thus they were able to avoid the problems inherent in loading a data base over a long period of time during which the original copy of the file being loaded continues to grow. For the same reason, BCLN should use the unload/reload facility. However, while College Bibliocentre successfully solved problems very similar to those facing BCUC in its data base load, the alternative of purchasing its programs and modifying them, as opposed to developing similar software for BCUC's load, should be carefully examined.

The major advantage of using the College Bibliocentre's programs would be a saving in both time and cost in software development IF only minor modifications were required. However, these modifications will not be minor.

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A matching algorithm would have to be developed, since College Bibliocentre had maintained its UTLAS records in a single file and thus had only a single file to load. The College Bibliocentre programs split the assembled UTLAS bibliographic record into various access points, holdings information, and document information, to be loaded into the appropriate CLL DOBIS files. Because College Bibliocentre has made numerous modifications to the NL DOBIS package, this part of the program would require modification.

A cursory examination shows the following differences between the two systems which would need to be taken into account:

- NL DOBIS has developed holdings files and protection codes to allow multiple users.
- CLL uses the publisher APF; NL does not.
- CLL has no shelf number (call number) APF; NL does.
- CLL carries title overrun and 'rest of the title page transcription' as special notes fields; NL has expanded the length of the title field to accommodate the complete title.
- There appear to be some differences in the data CLL and NL carry in the 'primary' and 'secondary' bibliographic fields.

A final drawback to this approach is that College Bibliocentre is reluctant to release part of their DOBIS package without the whole, on the grounds that their DOBIS facility is unique and individual pieces would be incompatible with other DOBIS installations.

After examining these alternatives, it was concluded that the recommended approach was preferable. While this approach would necessitate time for software development, the lag time between obtaining BCUC records from UTLAS and loading them into the DOBIS facility could be minimized. The resulting file could be developed consistent with what have hitherto been BCUC data base requirements. The development work could proceed while the BCLN hardware is being established. Finally, this approach to loading would seem to be the most efficient in terms of computer time.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

4.5 OBTAINING RECORDS FROM UTLAS.

UTLAS confirmed that they could supply us with tapes for individual BCUC libraries, within 2-3 months of our requesting them. The tapes would not contain dropped records (these are obtained only in the weekly runs). They noted that spring is likely to be the optimal time for such a request, late summer being the worst.

4.6 MATCHING BCUC UTLAS RECORDS.

At present, each BCUC member maintains its own UTLAS file of records, linked to the same record in other BCUC member files through a linking mechanism internal to the UTLAS system. NL DOBIS is structured on the basis of a single file of records, with holdings for many users attached to the single bibliographic record. In order to take advantage of this efficiency, in storing each piece of data once and eliminating duplicate editing work for the same item, the identical bibliographic records in individual BCUC files will need to be identified and the holdings attached.

In matching records the BCUC goal should be to identify duplicate records as well as, or better than, the existing linkages in the UTLAS file. Because there is a cost associated with making the matches more reliable (both in terms of not missing matches and of not making incorrect matches) it will be necessary to strike a balance between these costs and the undesirability of having duplicate records on the file.

4.6.1 NL DOBIS matching algorithm.

The NL DOBIS matching algorithm compares records on the basis of:

- standard numbers such as LCCN, ISBN, ISSN
- title (both full and truncated)
- fixed fields (including dates, country of publication, type of publication and others).
- names (in certain cases where truncated titles are matched.)
- coding level

NL has tested the algorithm, and on the basis of a sample of 500 records, has found no mismatches, and 4% requiring manual intervention. Similar results were obtained with a sample of serials records. The BCUC Office has a copy of the matching

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

algorithm.

In matching the records and creating the union file, a sort key will be generated for each item from the data in the record. Other information could then be used to validate matches which were obtained. It will be possible to use the same types of data which NL DOBIS uses, but it will be necessary to modify the way comparisons are done; this is because NL's matching procedure is done with a sequence of branching comparisons and decisions.

Before recommending the use of the NL DOBIS matching algorithm, with modifications, we examined several existing matching algorithms. None of these algorithms were used precisely for the purpose to which BCUC would need to put the algorithm; that is, to match records currently resident in separate files. The NL algorithm is intended to be used to load against a large existing file. OCLC's is to be used to clean up an existing union file, and to eliminate duplicates not found in the usual on-line searches. The University of Illinois approach was to establish a 'Master File' and process other files sequentially against it.

Other approaches considered for matching the files are outlined below.

4.6.2 Use of UTLAS linkages to match records.

The UTLAS linkages, used to produce the BCUC COM Union Catalogue from the separate BCUC UTLAS files would seem the most natural choice for matching BCUC records in creating the BCLN DOBIS file. However, UTLAS has confirmed that the linkages are part of the UTLAS system's internal structure, and as such would not be made available. The possibility of contracting with UTLAS to concatenate the BCUC files using the linkages, thus producing a BCUC union tape, was explored with Harriet Velazquez and Eric Anttila. While they agreed it was a possibility, they stressed that this work would only be done for a cost, and at their convenience. They recommended that BCUC explore other means, such as NL DOBIS' matching algorithm.

4.6.3 Other possible matches.

A recent issue of the Journal of library automation [1]

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[1] Journal of library automation. 12 (June 1979) :125-168 .

describes two other approaches which were taken to match records in different bibliographic files.

a. OCLC developed an algorithm whose purpose was to detect those matches in the OCLC monograph files missed in the usual searching procedures. Using this approach and with the requirement of an efficient algorithm, they were able to identify one-half of the monograph duplicates, with a 1% mismatch rate. The search took into account

- reproduction code
- record type
- LCCN
- OCLC search keys
- publisher
- place
- title
- date
- paging

Because a strict match was required, there were few mismatches. Similar to NL's matching algorithm, this approach , however, uses variable fields such as year of publication in some places where NL uses the corresponding fixed field. In their analysis of the OCLC procedure, the authors note that the fixed fields seemed at least as accurate as the corresponding variable fields; and noted that many duplicates were missed because of the publisher, title and paging.

b. The University of Illinois developed a two-step match, based on

- date and part of the title
- name (partial, main entry and added entry), paging, and title. The title comparisons were done on the basis of 'Harrison keys'. Harrison keys are trigrams, or overlapping character triplets. compared by counting the number of non-matching bits.

The procedure also identified many standard abbreviations with their full form; for example, 'U.S.' was identified with 'United States' in name matches.

However, the University of Illinois considered different editions, series and types of reproductions as duplicates, an unacceptable policy from BCUC's point of view.

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This procedure produced extremely few mismatches (1%); 1% required manual checking; and less than 3% of duplicates were missed, mostly as a result of the use of the trigrams to match titles.

In conclusion, it seems preferable to use the National Library matching algorithm, with some modifications. It produces acceptable results, is fairly simple, and could be modified to be used in sort key form. It might be appropriate to do some cleanup as the records are loaded, similar to what University of Illinois did in their matching. Finally, while possibly not as successful as the University of Illinois algorithm, it is simpler and distinguishes between elements which the University of Illinois considered matches but BCUC would not.

4.7 AUTHORITIES AS PART OF THE BCUC DATA BASE LOAD.

It is to be hoped that by the time BCUC has purchased NL DOBIS and the data base, three developments will have occurred: the source authorities will have been loaded; NL will have developed a system enhancement to automatically replace a heading that matches a 'see' reference with the correct entry; and the NL DOBIS data base Name APF will have been cleaned up.

If these developments have not taken place, BCUC may choose to do some cleanup of the data base during the preprocessing phase of the data base load. For example, before being loaded, the name APF could be passed against a file of 'see' references, and each heading that matches a 'see' reference replaced with the appropriate entry. At the same time general cleanup such as replacing 'U.S.' with 'United States' in certain data, or making global AACR2 changes if possible, could be accomplished. The unload/reload facility would then concatenate identical entry points in the APF's. There will be a cleanup cost, both in personnel and in machine time, and it will be necessary to examine carefully what level of cleanup is justified at that stage, particularly if it significantly delays the implementation of the system.

Thus, it is recommended

- THAT loading of the BCUC UTLAS records into the BCLN DOBIS system should include whatever authority cleanup is possible, as well as economically feasible , and can be accomplished in an acceptable period of time.

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4.8 DATA CONTENT IN THE CONVERTED BCLN DOBIS UNION RECORDS.

Each record in the UTLAS facility is stored as a complete unit, with data identified by the MARC tagging structure. The record data in the DOBIS facility is stored throughout the access point and bibliographic files, with pointers among the various pieces of data providing the links which are used to identify the complete record. (See Part 3.2.1) Nevertheless, all of the data carried within an UTLAS record may be converted to the NL DOBIS data base and retain the NL DOBIS identifiers equivalent to the MARC tagging.

When the BCLN DOBIS file is created (see Part 4.6), matching records will be identified. One of these records will then be chosen as the 'union record' on the basis of a hierarchy. This will be based on library and type of records established by BCUC. The holdings for all of the other 'match' records will be attached to this record. The UTLAS system number (RSN) for the chosen record will be stored in the system level 'miscellaneous numbers' file. The RSN's for the matching records will be stored in the local 'miscellaneous numbers' file.

There is information in BCUC UTLAS records which should be retained even when another record is chosen as the union record. For example, libraries which maintain medical subject headings will want them added to the union record if it contains none. In addition, libraries may wish to retain local information from their UTLAS record in their local files. As long as this information is identified in some way in the library's UTLAS tape record, it may be retained in the BCLN DOBIS facility. However, cost and time considerations may limit the amount of special work which can be done for an individual library.

If it were required, libraries might obtain copies of their records which had not been chosen as the union record; these could then be used to determine if it were necessary to upgrade to the union record. The cost of producing such a list would be borne by the library.

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

In order to create an acceptable union record and preserve essential individual library data, it is recommended

- THAT where duplicate BCUC records exist, the union record be chosen according to a pre-established hierarchy of libraries, and the holdings for each library attached to the selected union record.

- THAT changes and additions to the union record be made as required according to specifications established by BCLN users; but that such changes be kept to a minimum.

and

- THAT provision be made to allow use of local files when necessary to retain local data essential to a user's record, but that use of the local files be kept to a minumum.

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4.8.1 Choice of BCLN union record.

At present BCUC's COM Union Catalogue is generated from records in individual library files. When 'matches' are identified by the internally stored UTLAS linkages, the record which is to display in the union catalogue is selected according to an hierarchy of libraries established by BCUC. Before the BCUC records are loaded into the BCLN DOBIS facility, a similar hierarchy will need to be established. As well as selecting an hierarchy of libraries, other factors such as the encoding level of the record should be given consideration. Among the factors which should be considered are:

Order of precedence among libraries. BCUC will have to establish a list of selection criteria to be used, including considerations such as size of file, authority control and special requirements. Some information about the various library files has been gathered in the course of this study, and will be made available through the BCUC Project Office.

Level of coding of records. Libraries are adhering to an agreed-upon BCUC level of record quality. However as part of this agreement, there is provision for libraries to input records at a 'RECON' level and a 'brief' level, identifying them as such in fixed field 32. In selecting records for the union file, preference should be given to a fully coded record rather than a RECON or brief record.

Other criteria. While the criteria for choice of the union record should be as straightforward as possible, there may be criteria which users wish to establish for particular types of records. For example, one library which is not very high on the list might have high quality serials records. The selection procedure could be modified to prefer those serials records at a higher level than the rest of that library's file.

4.8.2 Record content.

A survey was circulated to BCUC members in an effort to identify data problems which might occur during the loading of BCUC's files. (see Appendix C) . As part of that survey, members were requested to specify how they maintained authority control over their file, where uniform titles were used, and what types of subject headings were used. The responses to the survey

suggest that BCUC will need to establish a common policy for authority control and uniform titles once BCLN DOBIS is operational. Given this common policy, BCUC may determine the preference level of a library in selection of the union record partly on the basis of how closely the library has been following this policy. The reason for doing this is that it would reduce the amount of authority cleanup ultimately required.

Authorities. While most member libraries select an entry for original cataloguing on the basis of what exists in their own authority file, practices among libraries differ in establishing a new heading. Some libraries prefer LC in all cases; some prefer NLC in all cases; and others prefer NLC for Canadian items and LC for all others. Further BCUC has agreed to the UTLAS SHARAF hierarchy of authorities. The SHARAF file itself requires further editing. A further complication is the difference in practice between most public and most academic libraries when cataloguing materials written under a pseudonym. Public libraries prefer the title page name as an entry; and academic libraries prefer to collect all materials written by an author under a single name. AACR2 will only partially resolve this problem because many libraries are applying it only to the establishment of new entries.

Uniform titles. As indicated in the survey, most but not all libraries in BCUC use uniform titles as entry points in their catalogue records. Several libraries establish uniform titles for main entries but not for added entries. LC practice is followed fairly consistently as to choice and form of uniform title. By no means all libraries maintain local authority control over uniform titles. Again, a standard for when uniform titles should be used and what form they take should be established for the BCLN union file. The consistency of the existing files with respect to this practice should be taken into account when deciding on the order of selection for union records.

Subject headings. On the basis of the survey and the records examined, it is apparent that several types of subject headings are used, but not at every library. For the most part, the type of subject heading is identified by the second indicator in the field. Thus it will be possible to extract certain types of subject headings from matching records when that type of subject heading

PART 4. BCLN DATA BASE LOADING REQUIREMENTS.

is not present in the record chosen for the union file. These extracted subject headings will then be loaded into the union record and reside in the systems level APF. The types of subject headings identified were:

- Library of Congress
- National Library of Canada
- National Library of Medicine
- Local subject headings [1]

Series. BCUC has established a policy that all series, with the exception of pseudoseries, be traced. The results of the survey indicate that libraries are adhering to this policy. Further, all but one library indicated that they are maintaining authority control over their series entries. Although most libraries record pseudoseries in the notes fields, this practice is used infrequently. Further, with three exceptions libraries are explicitly creating series entries rather than relying on the system to produce them from the untraced series field (490, with indicator 1 = 0).

Thus, generally speaking, series should present no particular problem in loading the data base, beyond that of authority control indicated above.

LCCN and ISBN problems. The Library of Congress card number (LCCN) and International Standard Book Number (ISBN) serve as standard access points to machine-readable catalogue records. The NL DOBIS matching algorithm considers two records a 'match' if both of these numbers agree. For BCUC records in the UTLAS

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[1] Local subject headings should be identified in the record with second indicator 4 in order that they be identified on the UTLAS tapes as such. If they are identified as such only by being created as a 'local' field on UTLAS, they will appear indistinguishable on the local tape from a 'real' subject heading with the same indicator. Subject headings with second indicator 4 could either be stored at the system level or in the local subject APF. At the system level, there would be no way to distinguish one library's subject headings from another.

files, these numbers are not always reliable. Further, because of UTLAS system limitations, these numbers are not available as frequently as in the NL DOBIS file.

Local data. The survey of BCUC members (See Appendix C) turned up no major difficulties with loading specific information into the BCLN DOBIS facility. All of the local holdings information carried in UTLAS fields 035,090,098,535,590,591,592, and 599 can be transferred to the BCLN DOBIS facility. With minor modifications, the data can be identified at the level of detail now available in UTLAS.

Other data. Individual libraries have identified some specific system-level data they wish to retain; often this is data where that library may have provided more specific coding than required by the BCUC standard. In many cases, the library 's reason for doing so has been to satisfy specific needs of its clientele in batch products. For example, several public libraries code fixed field 7 (Intellectual level code) in a more detailed fashion than other BCUC libraries, or, indeed, the Library of Congress. This fixed field is then translated to a phrase which identifies to the library patron. the intellectual level of the material.

To go beyond the basic criteria of library and type of record becomes extremely costly. Requirements to do so should be evaluated very carefully.

Appendix C includes a copy of the survey, as well as tabulated results where appropriate. Also included is a list of specific data concerns reflected in responses to the survey. It is imperative before the BCLN data base be created that a careful review be made of each library's data conversion requirements. This will be particularly significant with regard to library holdings, but should also encompass requirements with regard to systems level bibliographic data.

PART 5. IMPLEMENTATION STRATEGY

PART 5. IMPLEMENTATION STRATEGY.

5.1 INTRODUCTION.

NL DOBIS was chosen for replication because it was determined to be the most suitable and cost-effective library system for BCLN user needs. Nevertheless, NL DOBIS does not at present meet some of the user requirements identified in the study by Turner et al[1]. In addition, some systems development will be necessary in order to create the BCLN data base as recommended in Parts 3 and 4.

In this and subsequent parts of the study, the tasks necessary to accomplish the data base load and to meet user requirements are identified. They are grouped by priority and related to various implementation milestones including the installation of NL DOBIS on the BCLN facility. The groups responsible for the tasks are also identified. Finally, time and cost estimates are provided.

The implementation tasks that are the concern of this study relate primarily to user and data base requirements. However, they must be considered within the context of both previous, and concurrent, replication studies. The study by Shoffner and Madden[2] included an implementation task schedule that provided details for systems other than NL DOBIS; it also dealt with tasks that were not directly related to user and data base requirements. The schedule in this study is based on that of Shoffner and Madden. The BCLN Hardware and Computing Facilities Evaluation Study which is also currently underway will be addressing implementation tasks concerned with hardware and facility requirements. Operating costs and requirements will be included in this parallel study.

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[1] Ann Turner, Carolyn A. Hoffman, and Shirley Ward, DOBIS-WLN Impact Study: Report (Richmond, B.C.: B.C. Union Catalogue, 1980).

[2] Ralph M. Shoffner and Mary A. Madden, The DOBIS and Washington Library Network Systems: A Comparison for the B.C. Library Network (Richmond, B.C.: B.C. Union Catalogue, 1980).

PART 5. IMPLEMENTATION STRATEGY.

5.2 GROUPING OF IMPLEMENTATION TASKS.

The progress of the Implementation Phase will be measured by the achievement of the milestones identified in Figure 5.1. These milestones are:

START (MONTH 1)

Ideally, BCLN staff and the computing facility will be available when the Implementation Phase commences. However, it is not essential. Many user and data base tasks could be contracted out. In establishing cost and time estimates, we have assumed that the tasks prior to the BCLN facility being fully operational are contracted out. The associated administrative costs are developed elsewhere by Paul Baldwin, BCUC Project Director.

BCLN COMPUTING FACILITY AVAILABLE (MONTH 5-6)

Although much of the design and programming for the data base matching and loading can be carried out on another facility, the BCLN DOBIS facility must be available before the BCLN data base can be loaded. Thus there is a possibility of a delay at this point.

BCLN DATA BASE LOAD (MONTH 5-6)

As well as the BCLN facility being available, the data base load cannot be accomplished until all basic software modifications have been completed, and the software for the data base load fully tested.

INITIAL USERS PHASE BEGINS (MONTH 6-9)

Once the BCLN DOBIS is operational and the data base available for use, a small group of initial users will be switched from UTLAS to the new facility. During the Initial Users phase, any necessary modifications to the system or procedures will be identified and corrected. This phase will last one to three months.

FIRST BATCH PRODUCTS PRODUCED (MONTH 7-9)

The ability to provide acceptable batch products is essential if BCLN DOBIS is to provide an acceptable level of service.

PART 5. IMPLEMENTATION STRATEGY.

TRANSFER OF OTHER BCUC MEMBERS BEGINS (MONTH 8-10)

In addition to development of batch products, all other necessary systems adjustments and developments should be completed before the transfer of the other users begins.

BCLN DOBIS FULLY OPERATIONAL (MONTH 9-12)

The system will be considered fully operational when all BCUC members have been transferred to the BCLN DOBIS facility, and all other required implementation tasks have been completed satisfactorily. From this point on, there will be a requirement to provide continuous operation of the system, and to make other modifications to the system as identified in this report or elsewhere.

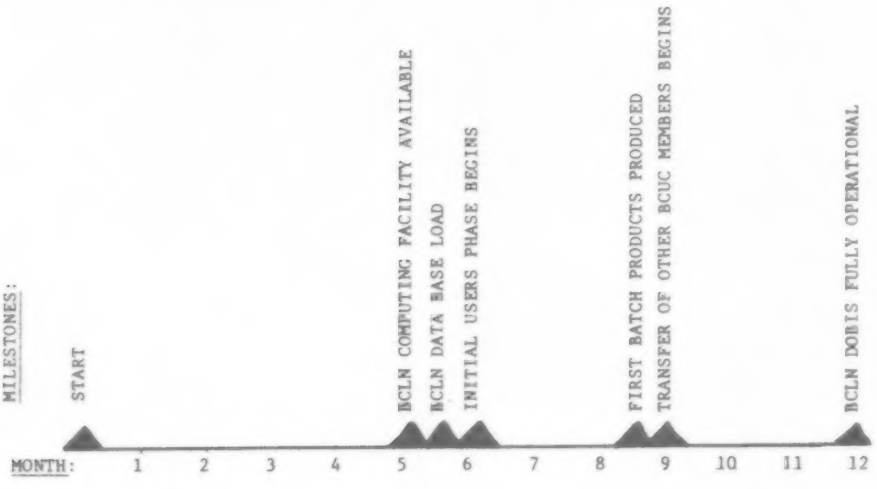

Fig. 5.1 Implementation milestones.

PART 5. IMPLEMENTATION STRATEGY.

5.2.1 Recommendation on grouping of implementation tasks.

It is recommended

- THAT steps necessary to accomplish systems developments and enhancements required for BCLN DOBIS be grouped into the following categories:

PRIORITY 1

This category includes those steps necessary to load the BCLN records into BCLN DOBIS. Location tables, and other user-defined tables, defaults, etc., will be established or modified in accordance with BCLN user requirements. It will also include additional systems enhancements which might require the unloading of the entire data base if they were carried out at a later date.

PRIORITY 2

This category includes changes identified as required during the Initial Users phase of the Implementation Phase. It also includes enhancements such as batch product modifications which, while not essential to implementation of the system, are important in meeting the requirement that the replicated facility provide an acceptable level of service.

PRIORITY 3

This category includes any further systems enhancements which, ideally, will be undertaken during the Implementation Phase if time and resources were available. Failing that, they will become the highest priority tasks during the post-Implementation Phase.

PRIORITY 4

This category includes any further changes to the system which have been identified as desirable, but should be postponed until the post-Implementation Phase.

PART 5. IMPLEMENTATION STRATEGY.

This approach emphasizes that a primary concern of BCLN should be to make the transition to BCLN DOBIS as quickly as possible. Nevertheless, care must be taken that long-term needs are not jeopardized.

The grouping of tasks in priority levels is similar to the approach employed by Shoffner and Madden[1]. They also suggested '...that a large amount of the Implementation effort is possibly discretionary, in that production operations could be started before all of the work were completed if the equipment were on hand and if the BCLN chose to follow this route.'[2]

5.2.2 Types of tasks.

The implementation tasks discussed in this report are primarily those that relate to this study's terms of reference -- to examine user and data base requirements. The report from the BCLN Hardware and Computing Facilities Evaluation Study will deal with implementation tasks relating to the hardware and the computing facility.

A number of different types of tasks will need to be carried out as part of the Implementation Phase.

Policy decisions will be required before many systems related implementation tasks can be carried out. For example, a preferred library hierarchy will have to be determined before the loading of BCUC records can take place.

The establishment/modification of tables and other user-defined variables in DOBIS are straightforward systems tasks because of the modular nature of the DOBIS system. However, more substantial changes, or major systems tasks such as developing the software required for the data base load, will require greater resources and be more costly.

The training of, and liaison with, BCUC members will be an important activity throughout the entire Implementation Phase.

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[1] Ralph Shoffner and Mary Madden, The DOBIS and Washington Library Network Systems..., p. 57.

[2] Ibid., p. 76.

PART 5. IMPLEMENTATION STRATEGY.

Users will have to be consulted frequently as code tables and other user defined systems variables are established. Specifications for data base loading, and batch product generation, will also require user input. Finally, each library will have to be trained to use DOBIS before being completely transferred from UTLAS to the local BCLN facility.

There are a number of miscellaneous tasks. For example, it will be necessary to arrange with UTLAS for an initial tape copy of all BCUC members' files, and also for monthly update tapes until every user is transferred.

PART 5. IMPLEMENTATION STRATEGY.

5.3 CO-OPERATIVE DEVELOPMENT WITH NL DOBIS.

A number of the developments proposed to meet BCLN user specifications are also required by NL DOBIS users and have been assigned a development priority by NLC. Because of time and cost factors, it is highly desirable that BCLN co-operate with NL DOBIS in any systems development. Further, the expectation of computer-to-computer communication between the two facilities promises rewards to both. Therefore it is recommended:

- THAT BCLN include a clause in the replication agreement with NLC committing both to co-operate on DOBIS and related systems development.

- THAT in keeping with the recommendation to establish a co-operative systems development agreement, BCLN consult with NLC before undertaking any systems developments identified as Priority 3 or 4 in this study. BCLN and NLC should endeavour to benefit from each other's efforts rather than carry out parallel work.

PART 5. IMPLEMENTATION STRATEGY.

5.4 GROUPS RESPONSIBLE FOR IMPLEMENTATION TASKS.

This study classifies the three groups responsible for most implementation tasks as follows:

- Implementation Committee
- Systems
- Library Support.

Two of those groups, Systems and Library Support, are roughly equivalent to Shoffner and Madden's Data Processing and Marketing/Library Support groups. The Implementation Committee does not have an antecedent in the previous studies.

5.4.1 Implementation Committee.

As discussed in Section 5.2.2 and outlined in Section 5.5, there will be many implementation tasks consisting of, or relying upon, policy decisions related to user and data base requirements. In order for the entire Implementation Phase to proceed as effectively as possible it will be necessary that some mechanism exists so that those policy issues may be discussed and resolved quickly. Therefore, it is recommended

- THAT an Implementation Committee be established at the commencement of the Implementation Phase. This committee will be responsible for user-related policy decisions required during implementation. This group will consult with BCLN staff and appropriate BCUC committees; it will also act as a liasion between them. When necessary, it will refer issues for resolution to the appppropriate BCUC committee.

In order for this committee to be effective it should be relatively small. Membership should be drawn from BCUC member libraries' administration, cataloguing, and systems, staff. Different types of libraries should be represented. Thus, this committee will be able to take into account management, cataloguing and systems considerations in establishing policies.

The basic responsibility of this group will be to ensure that necessary policy decisions are made at the required times during the Implementation Phase. However, this group should also be able to refer certain issues to existing BCUC committees and to receive input from those same committees and BCUC members. This committee will be expected to inform BCUC members about

PART 5. IMPLEMENTATION STRATEGY.

policy decisions it makes.

5.4.2 Systems.

The term 'systems' has a very general meaning in this study when used to designate the group responsible for implementation tasks. In terms of user and data base requirements, the Systems group has been assigned responsibility for those tasks that require establishment/modification of tables and other user-defined variables in DOBIS. They will be responsible for systems developments and enhancements, according to specifications developed by the Library Support group. They will also be responsible for all of the data processing and batch product generation that is required during the Implementation Phase.

It may be necessary to contract out some of the systems-related implementation tasks if the computing facility, and systems staff, are not available immediately. In assessing costs in this study, it will be assumed that this preliminary work is contracted out. Nevertheless, there are clear advantages in using people who have previous library programming experience and/or will remain with the BCLN DOBIS facility once it is operational.

It will be necessary for the Systems group to work closely with the Library Support group during the Implementation Phase. Many of their tasks can not be started until policy decisions have been made by the proposed Implementation Committee. They will also be in frequent contact with BCUC member libraries, through the Library Support group. This will be especially important for the modification of certain DOBIS code tables and the establishment of batch product profiles for individual libraries.

5.4.3 Library Support.

The use of the term 'library support' to designate a group responsible for certain implementation tasks also has a very general meaning in this study. The Library Support group will be responsible for much of the orientaton and training of BCUC member libraries as they are transferred to the replicated facility. They will also ensure that there is sufficient user participation in any of the implementation tasks that require user involvement. The Library Support staff will be responsible for liaison with the proposed Implementation Committee and for gathering data specifications and other information required from

individual libraries by the Systems Group. For this reason, it is highly desirable that the Library Support group during the Implementation phase have prior library systems experience. It is to be expected that this group will be responsible for training Library Support representatives who are hired once the system is operational.

5.4.4 Involvement of other groups.

It is apparent from the preceding sections that both existing BCUC committees and individual BCUC member libraries will be involved a great deal during the Implementation Phase. It is likely that the proposed Implementation Committee will consult with BCUC members through existing committees and also refer some issues to them. The Library Support group will be working directly with individual libraries not only in training, but also in obtaining information that will be necessary to implement certain systems tasks.

BCUC member libraries will have to expend varying levels of staff resources and time in order to complete many implementation tasks. Some of the DOBIS code tables will require input from local libraries. All members will also wish to ensure that their local data, and batch product, requirements are completely and correctly specified.

PART 5. IMPLEMENTATION STRATEGY.

5.5 LIST OF IMPLEMENTATION TASKS.

There are numerous tasks required to accomplish the initial BCLN data base load; looking beyond the implementation period, a number of systems changes have been identified as important BCLN user requirements. What follows is a list of these tasks grouped by priority, and delimited by the milestones.

Part 6 of this study provides cost and time summaries for these tasks. Part 7 contains a detailed discussion of each task. The responsible group, time(person-hours and elapsed), and cost are specified. Batch products and related Implementation Phase tasks are discussed more fully in Part 8.

5.5.1 Priority 1 tasks.

- MILESTONE: START IMPLEMENTATION PHASE.

- BCLN staff training by NL DOBIS.
- Implement monthly progress reports.
- Re-evaluate the efficiency and capacity of the NL DOBIS report generator facility.
- Enhancements to report generator facility.
- Arrange with UTLAS for initial tape copy of all BCUC files, plus subsequent monthly update tapes.
- Arrange with appropriate agencies for weekly update tapes of essential source files.
- Arrange with NLC for tape copy of NL DOBIS data base.
- Arrange with appropriate agencies for tape copies of source authority record files.
- Define BCLN DOBIS verification levels.
- Define BCLN authorization levels.
- Define BCLN record protection codes.
- Define BCLN user library codes.
- Assign authorization levels to BCUC libraries and users within each library.
- Assign BCLN user library location codes.
- Identify types of products required by individual libraries.
- Define BCLN system/local level specifications for matching, amalgamating, and loading of data base.
- Define policies and priorities for authorities records.
- Define specifications for authority 'clean-up'.
- Define specifications for exception reports associated with matching, amalgamating, and loading data base.
- Review specifications and determine hierarchy for data base load.
- Program and test matching algorithm.

PART 5. IMPLEMENTATION STRATEGY.

- Program and test amalgamation algorithm.
- Program and test authority 'clean-up'.
- Program and test exception reports.
- Obtain tape copy of NL DOBIS data base and prepare for data base loading.
- Obtain tape copy of all BCUC files from UTLAS and prepare for data base loading.

- MILESTONE: BCLN COMPUTING FACILITY AVAILABLE.

- Implement BCLN verification levels.
- Implement BCLN authorization levels.
- Implement BCLN protection codes.
- Implement BCLN library codes.
- Implement BCLN user library location codes.
- Implement product tables and queues for individual BCLN libraries.
- Implement Miscellaneous Numbers APF at the 'local' files level.
- Determine feasibility of implementing subject heading permutes.
- Define specifications for the cataloguer's printout.
- Program and test the cataloguer's printout.
- Full test of BCLN DOBIS software and data base load programs.
- Implement any required modifications identified during full test

- MILESTONE: BCLN DATA BASE LOAD.

- BCLN data base load.
- Define specifications for modifying NL DOBIS 'DMIN' loading facility.
- Modify NL DOBIS 'DMIN' loading facility to reflect BCLN requirements.
- Load monthly update tapes from UTLAS.
- Load 'essential' source file tape updates.
- Develop coding and editing standards for on-line cataloguing.
- Prepare preliminary user documentation and other training aids.
- Train Initial Users phase libraries.

PART 5. IMPLEMENTATION STRATEGY.

5.5.2 Priority 2 tasks.

- MILESTONE: INITIAL USERS PHASE BEGINS.

- Assist Initial Users phase libraries with workflow and procedure changes.
- Review NL DOBIS card product parameters and define specifications for A/V card products.
- Implement A/V card product and other card products.
- Develop general guidelines for BCLN standard fiche products.
- Define specifications for standard fiche products.
- Review and approve detailed specifications for standard fiche products.
- Implement standard fiche products.
- Monitor Initial Users phase.
- Implement required modifications identified during Initial Users Phase.

- MILESTONE: FIRST BATCH PRODUCTS PRODUCED.

- Produce first fiche and card standard batch products.
- Review first batch products and outcome of Initial Users Phase.
- Train other BCLN libraries.

- MILESTONE: TRANSFER OF OTHER BCUC MEMBERS BEGINS.

- Assist other BCLN libraries with workflow and procedure changes.

PART 5. IMPLEMENTATION STRATEGY.

5.5.3 Priority 3 tasks.

- Define user and system requirements for inter-library loan inquiry facility on BCLN DOBIS.
- Implement inter-library loan inquiry facility.
- Define other individual library profiles for standard batch products.
- Implement other individual library standard batch products.
- Produce standard batch products for other individual libraries.

- MILESTONE: BCLN DOBIS FULLY OPERATIONAL.

- Define specifications for magnetic tape record output in communications format.
- Implement magnetic tape record output.
- Define batch product specifications for BCLN union catalogue.
- Implement batch product specifications for BCLN union catalogue.
- Produce BCLN union catalogue.
- Define specifications for other standard batch products required by some BCLN libraries.
- Implement other standard batch products.
- Determine other required source files.
- Commence development of comprehensive systems and user documentation.
- Define specifications for added copies brief display screen.
- Implement added copies brief display screen.
- Design specifications for improved input edits.
- Program and test improved input edits.
- Design specifications for use of MARC tags on all display screens.
- Implement MARC tags option for display screens.
- Develop policy for non-standard or individual library batch products.

PART 5. IMPLEMENTATION STRATEGY.

5.5.4 Priority 4 tasks.

- Acquire LIBIS module and implement 'test' version.
- Define BCLN user and system requirements for full implementation of LIBIS module.
- Implement BCLN user and system requirements for LIBIS module.
- Develop statistical package.
- Sort entries on short bibliographic display screen.
- Include bibliographic information in call number display screen.
- Reorganize holdings display screen by location.
- Improve search facility to permit combined 'system' and 'local' level search.
- Introduce Boolean searching capability.
- Develop more efficient report generator facility.
- Develop a cataloguer's screen.

PART 6. SUMMARY OF COST AND TIME ESTIMATES

PART 6. SUMMARY OF COST AND TIME ESTIMATES.

6.1 INTRODUCTION.

Time and cost estimates have been prepared for BCLN user- and data base-related tasks to be carried out during the Implementation Phase. Implementation costs relating to the computer facility will be included in the BCLN hardware and computing facilities evaluation study. A summary of implementation costs including overhead, as well as first year operating costs is being prepared by Paul Baldwin, BCUC Project Director. Some general assumptions and qualifications for these estimates should be reviewed.

The duration and cost of most user- and data base-related tasks during the Implementation Phase will be largely dependent on the computing facility arrangement that is selected and the rapidity with which that choice is implemented. It will also depend greatly on the previous experience of the staff. Many implementation tasks can be started and completed before the BCLN facility is ready. However, they would be accomplished in a more efficient manner, and at a lower cost, if hardware and systems staff dedicated to BCLN were available early in the Implementation Phase. Finally, the actual data base load -- a major milestone -- and all subsequent user and data base tasks cannot proceed until the facility is in place.

The time and cost estimates in this study assume that all Priority 1 and Priority 2 tasks will be contracted out for software modification or development, and that the BCLN facility will not be available until the BCLN data base has been loaded. Personnel and computing facility usage will be the two major components in the cost of user- and data base-related implementation tasks. Some provision for UTLAS services(tape copies of BCUC files), travel, training, and general overhead(secretarial, office supplies, etc.) is also necessary.

BCLN staff labour costs have been subdivided according to the priority level of associated tasks. Priority 1 and 2 tasks will have to be completed during the Implementation Phase. Priority 3 tasks may be completed during the Implementation Phase, but some of them may not depending upon time and resource restrictions. A cost estimate for Priority 4 tasks has not been provided as it is assumed they not be initiated until after implementation.

PART 6. SUMMARY OF COST AND TIME ESTIMATES.

6.2 SUMMARY OF COSTS FOR DATA BASE CONVERSION AND USER IMPLEMENTATION.

(These costs are in 1981 Canadian dollars;
the times are in person-hours.)

6.2.1 Overall summary.

I. Labour:			
BCLN staff labour costs:			
PRIORITY 1 tasks	109,263		
PRIORITY 2 tasks	43,944		
Subtotal:	153,207		
PRIORITY 3 tasks	51,406		
Subtotal:	204,613		
NLC staff time	7,350		
Total labour:	211,963	-->	211,963
II. Computer costs:			
Development and testing	60,000		
CPU time for initial data base load	60,000		
Total:	120,000	-->	120,000
III. Tape costs:			
UTLAS file	80,000		
Authority files	25,000		
Total:	105,000	-->	105,000
IV. Travel:	20,000	-->	20,000
V. Grand total:			456,963

PART 6. SUMMARY OF COST AND TIME ESTIMATES.

6.2.2 Summary of BCLN staff labour costs.

	GROUP					
	SYSTEMS		SUPPORT		TOTAL	WITH 25%
	Time	Cost	Time	Cost	COST	OVERHEAD
PRIORITY 1	1,526	53,410	1,360	34,000	87,410	109,263
PRIORITY 2	448	15,680	779	19,475	35,155	43,944
Subtotal:	1,974	69,090	2,139	53,475	122,565	153,207
PRIORITY 3	665	23,275	714	17,850	41,125	51,406
TOTAL:	2,639	92,365	2,853	71,325	163,690	204,613

Total BCLN staff labour costs: 204,613

PART 6. SUMMARY OF COST AND TIME ESTIMATES.

6.3 BASIS FOR COST AND TIME FIGURES.

The staff resources required to perform the data base load and implementation tasks are discussed in detail in PART 7. Estimated times have been prepared for each task, and the responsible group identified; the costs have been increased by 25% to allow for overhead. The following base figures have been used in this study for hourly personnel costs:

Systems	
Contract staff	$35.00 hr.
Library Support	
Contract staff	$25.00 hr.

No personnel cost estimate has been applied to 'policy decision', and other, tasks assigned to the Implementation Committee. It is assumed that, as with other BCUC committees, individual libraries will absorb the costs of participation by their staff. It will be necessary to include some provision for NL DOBIS staff to provide initial training of BCLN staff and other consultation.

Computer development and testing costs are assumed to be 30% of manpower costs. The cost of performing the actual data base load was estimated as far as possible on the basis of similar sorting, matching and amalgamation functions performed on the UTLAS records at UBC; reload costs are very approximate.

UTLAS services required for completion of the Implementation Phase will constitute a significant portion of the implementation budget. A tape copy of all BCUC files at UTLAS is required for the data base load to be completed. It is assumed that UBC and BCIT tapes will be obtained from those institutions. It will also be necessary to contract for monthly update tapes until every BCUC user has been transferred. Pricing schedules from UTLAS were used to estimate the cost of obtaining the tapes. The cost of obtaining authorities tapes was based on published price schedules.

A travel budget will be required during the Implementation Phase. The Library Support Group will have to visit every BCUC library in order to gather library-specific information that is required for the completion of certain systems tasks. User training and the transfer of users to the BCLN DOBIS facility will also require on-site visits. Travel expenses for members of the Implementation Committee should also be covered.

PART 7. IMPLEMENTATION PHASE TASKS

PART 7. IMPLEMENTATION PHASE TASKS.

7.1 INTRODUCTION.

This section provides details on each of the user- and data base-related Implementation Phase tasks. PART 5 contains a summary of these tasks that shows their relationship to important 'milestones' during the Implementation Phase. They are presented in approximately sequential order, however many of these tasks can occur concurrently. The following information is shown for each task:

PRIORITY

This is the priority level that has been assigned to each task. PRIORITY 1 tasks must be completed before the 'milestone' task of loading the BCLN DOBIS data base. PRIORITY 2 tasks must be completed during the Initial Users phase. PRIORITY 3 tasks will be completed either during, or immediately after, the Implementation Phase. PRIORITY 4 tasks will not commence until the post-Implementation period.

GROUP

This is the group that has been assigned responsibility for completion of the task. Most tasks will be carried out by either the 'Library Support' group or the 'Systems' group. Some 'policy issue' tasks have been assigned to either the proposed Implementation Committee or other BCUC groups.

TIME

This is the number of person-hours that has been estimated for the completion of each task. The total time for 'decision' tasks, or those requiring input from individual BCUC libraries will not always reflect the actual amount of time required in some cases. However, they should be a reliable indicator of 'contact' time required for meetings and other scheduled activities.

PART 7. IMPLEMENTATION PHASE TASKS.

ELAPSED

This figure is the estimated elapsed time in months for each task. In some cases a range is provided, especially if the commencement of the task depends on the completion of other tasks, or uncontrollable factors such as the delivery of equipment.

COST

This is the estimated cost for each task. A cost figure has not been included for those tasks assigned to the proposed Implementation Committee or other BCUC groups. Provision for travel and other overhead has been included in the overall costs presented in Part 6 of this report.

A brief description of each task is also provided. In many instances, more detail is available in other sections of this study.

PART 7. IMPLEMENTATION PHASE TASKS.

BCLN staff training by NL DOBIS.

PRIORITY: 1 GROUP: NL DOBIS staff COST: SYS $4410.00
HOURS: 210 ELAPSED: 1 - 6 SUP $2100.00
(NL staff $7350.00)

Contract with NLC to provide initial training of BCLN staff on DOBIS system. 126 hours have been allocated for training of BCLN Systems staff, and 84 hours for training of BCLN Library Support staff, for a total of 210 hours. Although some overlap is likely in the training of the two BCLN groups, the Systems staff will be concerned primarily with software and systems operation, while the Library Support staff will be interested in learning how to use the system and to train other DOBIS users.

Implement monthly progress reports.

PRIORITY: 1 GROUP: Library Support
HOURS: 70 ELAPSED: Ongoing COST: $1750.00

Establish monthly progress report routines and assign specific responsibilities to Library Support staff. Information gathering mechanism and types of reports will be clarified. There will be a need for both internal, and user-oriented, reports. 28 hours have been allocated for the initial design and implementation of the report mechanism, and 42 hours have been included for an 'ongoing' estimate during the Implementation Phase, for a total of 70 hours.

Re-evaluate the efficiency and capacity of the NL DOBIS report generator facility.

PRIORITY: 1 GROUP: Systems
HOURS: 35 ELAPSED: 1 COST: $1225.00

Systems staff will review NL DOBIS report generator processing statistics and decide if local development work should be undertaken during the Implementation Phase. (SEE Part 8.3: PRODUCTION OF BCLN BATCH PRODUCTS.)

PART 7. IMPLEMENTATION PHASE TASKS.

Enhancements to report generator facility.

PRIORITY: 1 GROUP: Systems
HOURS: 140 ELAPSED: 3 - 5 COST: $4900.00

This task is conditional upon the results of the re-evaluation of the NL DOBIS report generator facility. If it is determined that improvements are required, Systems will concentrate on those related to microfiche catalogue production. Any local development during the Implementation Phase should be viewed as an 'interim' solution. Complete re-development of the report generator facility has also been included as a possible post-Implementation task.

Arrange with UTLAS for initial tape copy of all BCUC files, plus subsequent monthly update tapes.

PRIORITY: 1 GROUP: Systems
HOURS: 2 ELAPSED: 1 COST: $70.00

UTLAS will require 3 to 6 months lead time to produce a tape copy of all BCUC files for the data base load, except for the UBC and BCIT files. After the load is completed, it will be necessary to continue receiving monthly update tapes from UTLAS until all BCUC members have been transferred to the local facility. It is important that arrangements be finalized as soon as possible to ensure that the tapes are available at the required time. Arrangements for obtaining some 'test' records (if not already available locally) as soon as possible are also required.

Arrange with appropriate agencies for monthly update tapes of essential source files.

PRIORITY: 1 GROUP: Systems
HOURS: 4 ELAPSED: 1 COST: $140.00

Essential source files, LC MARC and CANMARC, will have to be maintained on a regular basis after the initial data base load.

PART 7. IMPLEMENTATION PHASE TASKS.

Arrange with NLC for tape copy of NL DOBIS data base.

PRIORITY: 1 GROUP: Systems
HOURS: 2 ELAPSED: 1 COST: $70.00

NL DOBIS has indicated they will provide 'disk' copies on tape of their entire data base. NL DOBIS' loading schedule of various source files should be taken into consideration when determining the most appropriate time to obtain the tape copy of their data base.

Arrange with appropriate agencies for tape copies of source authority record files.

PRIORITY: 1 GROUP: Systems
HOURS: 6 ELAPSED: 1 COST: $210.00

Source authority records will be required in the authority 'clean-up' during the pre-processing for the data base load. NOTE: Before this task can be initiated, it will be necessary for the Implementation Committee to establish policies and priorities for authority records. (another PRIORITY 1 task).

Define BCLN DOBIS verification levels.

PRIORITY: 1 GROUP: Implementation Committee
HOURS: 14 ELAPSED: 1

Verification levels indicate the quality of the bibliographic data. Verification levels apply to fields rather than the record as a whole. They are defined according to a combination of policy standards and source of the record. The Implementation Committee will be able to use the verification levels currently employed by NL DOBIS as a basis for this task. The modification of verification levels is one alternative that may be used in BCLN DOBIS to protect BCLN union records from off-line update.

PART 7. IMPLEMENTATION PHASE TASKS.

Define BCLN authorization levels.

PRIORITY: 1 GROUP: Implementation Committee
HOURS: 14 ELAPSED: 1

Authorization levels are specific to the signon id; they control the use of the system. Users may, or may not, perform certain functions depending upon their authorization level. Authorization levels will vary among users within a library. They may also vary among libraries. The major objective of the Implementation Committe will be to define a policy that will enable the Library Support group to assign authorization levels for each participating library.

Define BCLN record protection codes.

PRIORITY: 1 GROUP: Implementation Committee
HOURS: 14 ELAPSED: 1

Protection codes protect bibliographic data created or modified on-line from subsequent off-line updating. The major task of the Implementation Committee will be to decide whether all BCLN union records should be protected or some types of records should be updated by source records. The protection codes currently employed by NL DOBIS can be used as a basis for defining them for BCLN DOBIS.

Define BCLN user library codes.

PRIORITY: 1 GROUP: Implementation Committee
HOURS: 7 ELAPSED: 1

User library codes will appear in any union, or systems, holding displays in DOBIS. They will also be used in some union batch products and for some internal systems identification purposes. The major task of the Implementation Committee will be to decide whether the NUC code, or the UTLAS WHO code, should be used for current BCUC members. The use of the Canadian library code is recommended as being more widely recognised.

PART 7. IMPLEMENTATION PHASE TASKS.

Assign authorization levels to BCUC libraries and users within each library.

PRIORITY: 1 GROUP: Library Support
HOURS: 70 ELAPSED: 1 - 3 COST: $1750.00

When the Implementation Committee formulates a policy on authorization levels, the Library Support group can proceed to assign them for each library. This task should be done in close consultation with each library.

Assign BCLN user library location codes.

PRIORITY: 1 GROUP: Library Support
HOURS: 35 ELAPSED: 1 - 3 COST: $875.00

User library location codes are the abbreviations used by each member library to indicate the location of an item in their system. In most cases, the codes that are currently used by each library in their UTLAS records will be satisfactory for use in BCLN DOBIS. However, the DOBIS location code table is not a 'two-level' table and some of the larger libraries with numerous sub-location codes will require some extra time to assign location codes. This task should be done in close consultation with each library.

Identify types of products required by individual libraries.

PRIORITY: 1 GROUP: Library Support
HOURS: 28 ELAPSED: 1 COST: $700.00

It will be necessary to identify the general types of products required by individual libraries so that the appropriate DOBIS code tables can be implemented. Detailed product specifications will be developed at a later time in the Implementation Phase.

PART 7. IMPLEMENTATION PHASE TASKS.

Define BCLN system/local level specifications for matching, amalgamating, and loading of data base.

PRIORITY: 1 GROUP: Library Support
HOURS: 280 ELAPSED: 1 - 3 COST: $7000.00

Detailed specifications for matching and amalgamating BCUC records will have to be developed before any programming can be done. A field by field review of each BCUC library's cataloguing practices will be necessary to ensure that library-specific information is identified. This task will require considerable input from each library. (SEE Part 4: BCLN DATA BASE LOADING REQUIREMENTS.)

Define policies and priorities for authorities records.

PRIORITY: 1 GROUP: Implementation Committee
HOURS: 14 ELAPSED: 1

At present, there is variation among BCUC libraries in choice of entry. The major task of the Implementation Committee will be to decide what source files will be preferred in BCLN DOBIS. This task must be completed before any implementation tasks related to acquiring source authorities records or the authority 'clean-up' can commence. (SEE Part 4: BCLN DATA BASE LOADING REQUIREMENTS.)

Define specifications for authority 'clean-up'.

PRIORITY: 1 GROUP: Library Support
HOURS: 70 ELAPSED: 1 COST: $1750.00

The extent, or complexity, of the authority 'clean-up' during pre-processing for the data base load will be determined largely by the time and resources that are available. Some desirable objectives of the authority 'clean-up' are 'to flip' certain headings in BCUC records by using authority cross-reference records and to carry out some AACR2, or other global, changes. (SEE Part 4: BCLN DATA BASE LOADING REQUIREMENTS.)

PART 7. IMPLEMENTATION PHASE TASKS.

Define specifications for exception reports associated with matching, amalgamating, and loading data base.

PRIORITY: 1 GROUP: Library Support
HOURS: 70 ELAPSED: 1 - 2 COST: $1750.00

Exception report requirements will be based upon the specifications produced for the matching, amalgamating and loading of the data base. First priority should be assigned to 'systems' level exception reports such as the identification of 'potential' matches. For some libraries, it may also be a requirement to produce a list of the records supplanted during the creation of the BCLN union record. The cost of this would likely be borne by the individual library.

Review specifications and determine hierarchy for data base load.

PRIORITY: 1 GROUP: Implementation Committee
HOURS: 56 ELAPSED: 1

After reviewing the specifications for the matching, amalgamating and loading of the data base, it will be necessary for the Implementation Committee to determine the preferred library hierarchy. This will be used as the major determinant in the selection of the union record from among duplicate records. (SEE Part 4: BCLN DATA BASE LOADING REQUIREMENTS.)

Program and test matching algorithm.

PRIORITY: 1 GROUP: Systems
HOURS: 175 ELAPSED: 2 - 3 COST: $6125.00

Using the detailed specifications developed by the Library Support group, the Systems group will program and test the matching algorithm. During this pre-processing stage a match key will be generated from each UTLAS record. Data from matching records to be merged with the union record will be flagged; library-specific data for local files will also be flagged. Records will then be sorted and merged using the match key and other record information.

PART 7. IMPLEMENTATION PHASE TASKS.

Assist in systems development and testing of matching algorithm.

PRIORITY: 1 GROUP: Library Support
HOURS: 70 ELAPSED: 2 - 3 COST: $1750.00

The Library Support group will work in conjunction with the Systems group during the programming and testing of the matching algorithm. They will clarify, or modify, specifications when required. Finally, they will assist in ensuring that the matching algorithm is fully tested and meets the required specifications.

Program and test amalgamation algorithm.

PRIORITY: 1 GROUP: Systems
HOURS: 350 ELAPSED: 2 - 3 COST:$12250.00

Using the detailed specifications developed by the Library Support group, the Systems group will program and test the amalgamation algorithm. This program will ensure that library-specific information destined for the 'local' level files is retained. Some data from the merged matching records will be retained at the system level. It will also divide the union records into the unloaded format once they have been processed by the authority 'clean-up' Copies of the union records together with each library's holdings will be saved on tape for COM fiche generation.

Assist in systems development and testing of amalgamation algorithm.

PRIORITY: 1 GROUP: Library Support
HOURS: 70 ELAPSED: 2 - 3 COST: $1750.00

The Library Support group will work in conjunction with the Systems group during the programming and testing of the amalgamation algorithm. They will clarify, or modify, specifications when required. Finally, they will assist in ensuring that the amalgamation algorithm is fully tested and meets the required specifications.

PART 7. IMPLEMENTATION PHASE TASKS.

Program and test authority 'clean-up'.

PRIORITY: 1 GROUP: Systems
HOURS: 140 ELAPSED: 1 - 2 COST: $4900.00

Using the detailed specifications developed by the Library Support group, the Systems group will program and test the authority 'cleanup'.

Assist in systems development and testing of authority 'clean-up'.

PRIORITY: 1 GROUP: Library Support
HOURS: 35 ELAPSED: 1 - 2 COST: $875.00

The Library Support group will work in conjunction with the Systems group during the programming and testing of the authority 'clean-up'. They will clarify, or modify, specifications when required. Finally, they will assist in ensuring that the authority 'clean-up' is fully tested and meets the required specifications.

Program and test exception reports.

PRIORITY: 1 GROUP: Systems
HOURS: 105 ELAPSED: 1 - 2 COST: $3675.00

Using the detailed specifications developed by the Library Support group, the Systems group will program and test the exception reports.

Assist in programming and testing of exception reports.

PRIORITY: 1 GROUP: Library Support
HOURS: 35 ELAPSED: 1 - 2 COST: $875.00

The Library Support group will work in conjunction with the Systems group during the programming and testing of the exception reports. They will clarify, or modify, specifications when required. Finally, they will assist in ensuring that the exception reports are fully tested and meet the required specifications.

PART 7. IMPLEMENTATION PHASE TASKS.

Obtain tape copy of NL DOBIS data base and prepare for data base loading.

PRIORITY: 1 GROUP: Systems
HOURS: 14 ELAPSED: 1 COST: $490.00

The tape of the NL DOBIS data base will be 'disk' copies. Therefore, it will be necessary to copy the tapes onto equivalent disk storage units on BCLN DOBIS and subsequently unload the system so that the NL DOBIS records will be in 'unloaded' format and ready for processing during the data base load. There will be between two and three million bibliographic records in the NL DOBIS data base.

Obtain tape copy of all BCUC files from UTLAS and prepare for data base loading.

PRIORITY: 1 GROUP: Systems
HOURS: 14 ELAPSED: 1 COST: $490.00

There will be at least twenty-eight BCUC files at UTLAS containing a combined total of approximately 1.7 million bibliographic records. The tapes will have to be organized and also checked to ensure that all files and records are present.

Implement BCLN verification levels.

PRIORITY: 1 GROUP: Systems
HOURS: 7 ELAPSED: 1 COST: $245.00

Using the BCLN verification levels defined by the Implementation Committee, the Systems group will modify the appropriate DOBIS code tables. This is a user-defined variable in the DOBIS system and will not require programming or significant systems modification.

PART 7. IMPLEMENTATION PHASE TASKS.

Implement BCLN authorization levels.

PRIORITY: 1 GROUP: Systems
HOURS: 21 ELAPSED: 1 COST: $735.00

Using the BCLN authorization levels assigned by the Library Support group, the Systems group will modify the appropriate DOBIS code tables. This is a user-defined variable in the DOBIS system and will not require programming or significant systems modification. However, there will be a large number of users to whom authorization levels must be assigned.

Implement BCLN protection codes.

PRIORITY: 1 GROUP: Systems
HOURS: 7 ELAPSED: 1 COST: $245.00

Using the BCLN protection codes defined by the Implementation Committee, the Systems group will modify the appropriate DOBIS code tables. This is a user-defined variable in the DOBIS system and will not require programming or significant systems modification.

Implement BCLN library codes.

PRIORITY: 1 GROUP: Systems
HOURS: 7 ELAPSED: 1 COST: $245.00

Using the BCLN library codes defined by the Implementation Committee, the Systems group will modify the appropriate DOBIS code tables. This is a user-defined variable in the DOBIS system and will not require programming or significant systems modification.

PART 7. IMPLEMENTATION PHASE TASKS.

Implement BCLN user library location codes.

PRIORITY: 1 GROUP: Systems
HOURS: 21 ELAPSED: 1 COST: $735.00

Using the location codes assigned to each library by the Library Support group, the Systems group will modify the appropriate DOBIS code tables. This is a user-defined variable in the DOBIS system and will not involve programming or significant systems modification.

Implement product tables and queues for individual BCLN libraries.

PRIORITY: 1 GROUP: Systems
HOURS: 28 ELAPSED: 1 COST: $980.00

Using the general product requirements identified by the Library Support group, the Systems group will modify the appropriate DOBIS code tables and establish product queues for each library.

Implement Miscellaneous Numbers APF at the 'local' files level.

PRIORITY: 1 GROUP: Systems
HOURS: 7 ELAPSED: 1 COST: $245.00

This is the only recommended departure from the NL DOBIS file configuration. However, like code tables, the implementation of this access point file, is a user-defined variable. This APF has been pre-defined in the DOBIS system and its implementation will not involve programming or significant systems modification.

PART 7. IMPLEMENTATION PHASE TASKS.

Determine feasibility of implementing subject heading permutes.

PRIORITY: 1 GROUP: Library Support
HOURS: 21 ELAPSED: 1 COST: $525.00

NL DOBIS has determined that the cost of implementing full permutation of the subject files is prohibitive. On the other hand, there is great interest in providing this capability, particularly for geographic subdivisions. It might be feasible to permute only on the geographic subdivisions, if it is not deemed feasible to permute the entire subject field.

Define specifications for the cataloguer's printout.

PRIORITY: 1 GROUP: Library Support
HOURS: 70 ELAPSED: 1 COST: $1750.00

As an alternative to development of the cataloguer's screen, it is proposed that catalogue records be printed from the data base for checking, on request. Although this task could be left until PRIORITY 3, its implementation is regarded as crucial in order to maintain the quality of the data base without requiring very long checking procedures.

Program and test the cataloguer's printout.

PRIORITY: 1 GROUP: Systems
HOURS: 70 ELAPSED: 1 COST: $2450.00

This task should not represent a major programming development because it will be similar to the DMARC output format.

Assist in the testing of the cataloguer's printout.

PRIORITY: 1 GROUP: Library support
HOURS: 7 ELAPSED: 1 COST: $175.00

PART 7. IMPLEMENTATION PHASE TASKS.

Full test of BCLN DOBIS software and data base load programs.

PRIORITY: 1 GROUP: Systems
HOURS: 21 ELAPSED: 1 COST: $735.00

Once all DOBIS software has been modified for BCLN purposes and the data base load programs are completed, a final test will be required before proceeding with the data base load.

Assist in full test of BCLN DOBIS software and data base load programs.

PRIORITY: 1 GROUP: Library Support
HOURS: 21 ELAPSED: 1 COST: $525.00

The involvement of the Library Support group in final systems testing will be crucial in order to ensure that essential user and data base requirements have been met.

Implement any required modifications identified during full test

PRIORITY: 1 GROUP: Systems
HOURS: 14 ELAPSED: 1 COST: $490.00

Assuming that the preliminary work has been adequately tested, the changes required at this point should not be major.

BCLN data base load.

PRIORITY: 1 GROUP: Systems
HOURS: 70 ELAPSED: 1 COST: $2450.00

This is a major milestone task. It will require a significant amount of processing time. Systems staff will have to submit, control, and monitor all related processing jobs.

PART 7. IMPLEMENTATION PHASE TASKS.

Define specifications for modifying NL DOBIS 'DMIN' loading facility.

PRIORITY: 1 GROUP: Library Support
HOURS: 14 ELAPSED: 1 COST: $350.00

The 'DMIN' loading facility will be used to load both monthly UTLAS update tapes and source file update tapes after the initial data base load is completed. It operates as a 'background' task and although it is not suitable for the initial data base load, it will be more than sufficient for ongoing record loading. It also includes a matching and amalgamating algorithm quite similar to the one employed during the initial data base load. It will have to be modified to reflect BCLN verification levels and protection codes, in addition to any other local data base requirements.

Modify NL DOBIS 'DMIN' loading facility to reflect BCLN requirements.

PRIORITY: 1 GROUP: Systems
HOURS: 35 ELAPSED: 1 COST: $1225.00

Using the specifications defined by the Library Support group, the Systems group will make the appropriate modifications to the 'DMIN' loading facility. According to NL DOBIS, this facility should not be difficult to modify.

PART 7. IMPLEMENTATION PHASE TASKS.

Load monthly update tapes from UTLAS.

PRIORITY: 1 GROUP: Systems
HOURS: 70 ELAPSED: 3 - 6 COST: $2450.00

This will be an ongoing task until all BCLN users have been transferred from UTLAS. It is essential that the BCLN DOBIS data base be updated to contain records being added at UTLAS by BCLN users. This task will have to commence as soon as possible after the data base load. The DOBIS 'DMIN' loading facility will be used to load these records as a 'background' task. The NL DOBIS version will also contain a matching and amalgamation algorithm similar to the one used for the initial data base load. This facility, in conjunction with the verification levels and protection codes, will ensure that the UTLAS updates are correctly processed and merged with the BCLN DOBIS data base. The Systems group will have to schedule and process the tapes.

Load 'essential' source file tape updates.

PRIORITY: 1 GROUP: Systems
HOURS: 35 ELAPSED: Ongoing COST: $1225.00

This will be an ongoing task for the BCLN DOBIS facility. However, it should commence as soon as possible after the initial data base load so that the Initial Users phase can begin. The time estimate is only for the duration of the Implementation Phase. Like the monthly update tapes from UTLAS, source file update tapes will also be loaded as a 'background' task using the DOBIS 'DMIN' loading facility. The Systems group will have to schedule and process the tapes.

PART 7. IMPLEMENTATION PHASE TASKS.

Develop coding and editing standards for on-line cataloguing.

PRIORITY: 1 GROUP: BCUC Standards Committee
HOURS: ?? ELAPSED: 3 - 6.

Existing BCUC coding and editing standards will have to be reviewed and if necessary modified for on-line cataloguing in the BCLN DOBIS environment.

Prepare preliminary user documentation and other training aids.

PRIORITY: 1 GROUP: Library Support
HOURS: 105 ELAPSED: 1 COST: $2625.00

Preliminary user documentation on BCLN DOBIS will be required for the Initial Users phase. It should be sufficient to enable the Library Support group to transfer and train all BCUC members on the use of BCLN DOBIS. However, it will only be 'interim' documentation. Provision is made later in the Implementation Phase for the development of more comprehensive documentation. Much of the preliminary documentation can be based on existing NL DOBIS material.

Train Initial Users phase libraries.

PRIORITY: 1 GROUP: Library Support
HOURS: 105 ELAPSED: 1 COST: $2625.00

It is assumed that three representative BCUC libraries will participate in the Initial Users phase. Additional time for their training is provided as it will be the first time the Library Support group will be training users.

PART 7. IMPLEMENTATION PHASE TASKS.

(Travel time.)

PRIORITY: 1,2 GROUP: Library Support
HOURS: 200 ELAPSED: 9 COST: $5000.00

During the Implementation Phase, the Library Support staff will spend a good deal of time travelling to the BCLN member libraries. An allotment of 200 hours (100 for PRIORITY 1 tasks, and 100 for PRIORITY 2 tasks) has been made for this time.

Assist Initial Users phase libraries with workflow and procedure changes.

PRIORITY: 2 GROUP: Library Support
HOURS: 105 ELAPSED: 1 - 3 COST: $2625.00

In addition to the workflow adjustments that are usually required in transferring to a new system, DOBIS will also have the potential for increasing processing capabilities. Additional time for this task during the Initial Users phase has been provided in the expectation that information concerning the impact of the DOBIS system will be acquired. This will be profitably applied during the transfer of other BCUC members to the local facility.

Review NL DOBIS card product parameters and define specifications for A/V card products.

PRIORITY: 2 GROUP: Library Support
HOURS: 14 ELAPSED: 1 COST: $350.00

Since NL DOBIS produces standard card products for monographs and serials, the modification required to these should be minimal. The implementation of the A/V card product should be straightforward, requiring the addition of less than ten notes fields.

PART 7. IMPLEMENTATION PHASE TASKS.

Implement A/V card product and other card products.

PRIORITY: 2 GROUP: Systems
HOURS: 14 ELAPSED: 1 COST: $490.00

The NL DOBIS report generator parameters for other standard card products will provide a basis for this task. A small number of MARC fields unique to audio-visual records will have to be added to the existing card profiles.

Develop general guidelines for BCLN standard fiche products.

PRIORITY: 2 GROUP: Implementation Committee.
HOURS: 21 ELAPSED: 1

The major objective of the Implementation Committee will be to establish a general policy on standard fiche products. It will have to address such issues as COM sequences, record content and formats, and local versus systems information, frequency, and cumulations versus supplements. (SEE Part 8: BATCH PRODUCTS.)

Define specifications for standard fiche products.

PRIORITY: 2 GROUP: Library Support
HOURS: 70 ELAPSED: 1 - 2 COST: $1750.00

Using the general guidelines established by the Implementation Committee, the Library Support group will produce detailed specifications for standard fiche products. The NL DOBIS report generator parameters may be used as a basis for this task.

PART 7. IMPLEMENTATION PHASE TASKS.

Review and approve detailed specifications for standard fiche products.

PRIORITY: 2 GROUP: Implementation Committee
HOURS: 14 ELAPSED: 1

The major objective of the Implementation Committee will be to ensure that the detailed specifications for standard fiche products are acceptable within the context of their general guidelines for fiche products.

Implement standard fiche products.

PRIORITY: 2 GROUP: Systems
HOURS: 280 ELAPSED: 1 - 2 COST: $9800.00

Using the detailed specifications provided by the Library Support group and the NL DOBIS report generator facility, the Systems group will implement standard fiche products.

Assist in implementation of standard fiche products.

PRIORITY: 2 GROUP: Library Support
HOURS: 35 ELAPSED: 1 - 2 COST: $875.00

The Library Support group will work in conjunction with the Systems group during the programming and testing of the batch product programs. They will clarify, or modify, specifications when required. Finally, they will assist in ensuring that the batch product programs are fully tested and meet the required specifications.

PART 7. IMPLEMENTATION PHASE TASKS.

Monitor Initial Users phase.

PRIORITY: 2 GROUP: Systems/Library Support.
HOURS: 140 ELAPSED: 1 - 3 COST: $4200.00

This task can be evenly divided between the Systems group and the Library Support group. The costs will be $2450.00 and $1750.00 respectively. The Systems group will be able to check the performance of systems software and hardware. The Library Support group will concentrate on user and data base requirements, and also gain experience that can be used in the transfer of other BCLN members. In both cases, essential systems or user-related modifications will be made or, at least, documented.

Implement required modifications identified during Initial Users Phase.

PRIORITY: 2 GROUP: Systems
HOURS: 70 ELAPSED: 1 - 2 COST: $2450.00

The Systems group will make any required modifications and adjustments to the system.

Produce first fiche and card standard batch products.

PRIORITY: 2 GROUP: Systems
HOURS: 14 ELAPSED: 1 COST: $490.00

Using the standard product parameters developed for fiche and cards, the Systems group will produce first products for those libraries participating in the Initial Users phase. This will be a processing task, and Systems will only have to submit and monitor the various jobs.

PART 7. IMPLEMENTATION PHASE TASKS.

Review first batch products and outcome of Initial Users Phase.

PRIORITY: 2 GROUP: Implementation Committee
HOURS: 7 ELAPSED: 1

The Implementation Committee will review the Initial Users Phase outcome before the other libraries are implemented.

Train other BCLN libraries.

PRIORITY: 2 GROUP: Library Support
HOURS: 280 ELAPSED: 1 - 3 COST: $7000.00

It is assumed that training of other BCLN libraries will not require as much time as that allocated for training during the Initial Users phase. The Library Support group will be experienced. Much of the instruction can occur simultaneously for two or more libraries. In addition, only one or two users at most libraries will have to be trained. They, in turn, will instruct other staff at their institutions.

Assist other BCLN libraries with workflow and procedure changes.

PRIORITY: 2 GROUP: Library Support
HOURS: 105 ELAPSED: 1 - 3 COST: $2625.00

It is assumed this task will not require as much time as that allocated during the Initial Users phase.

PART 7. IMPLEMENTATION PHASE TASKS.

Define user and system requirements for inter-library loan inquiry facility on BCLN DOBIS.

PRIORITY: 3 GROUP: Library Support
HOURS: 35 ELAPSED: 1 COST: $875.00

The implementation of the inter-library loan inquiry function on BCLN will be a straightforward task. Its basic requirement will be to provide users with a 'search-only' access to the data base. A desirable post-implementation development would also be the provision of a message facility as part of the network.

Implement inter-library loan inquiry facility.

PRIORITY: 3 GROUP: Systems
HOURS: 49 ELAPSED: 1 - 3 COST: $1715.00

Using the specifications developed by the Library Support group, the Systems group will develop and test the inter-library loan facility. The DOBIS system should not require any modification; any necessary enhancements would likely be associated with the network communications system.

Define other individual library profiles for standard batch products.

PRIORITY: 3 GROUP: Library Support COST: $2625.00
HOURS: 105 ELAPSED: 1 - 3

Once the first products have been produced, the product profiles for the other libraries will need to be established. Local file requirements and holdings will need to be identified.

PART 7. IMPLEMENTATION PHASE TASKS.

Implement other individual library standard batch products.

PRIORITY: 3 GROUP: Systems
HOURS: 105 ELAPSED: 1 - 3 COST: $3675.00

Using the profiles defined by the Library Support group, the Systems group will implement batch products for individual libraries. This task will not require any major systems development.

Produce standard batch products for other individual libraries.

PRIORITY: 3 GROUP: Systems
HOURS: 42 ELAPSED: Ongoing COST: $1470.00

Systems will be responsible for scheduling and submitting batch product jobs on an ongoing basis. The time estimate is only for the Implementation phase.

Define specifications for magnetic tape record output in communications format.

PRIORITY: 3 GROUP: Library Support
HOURS: 21 ELAPSED: 1 COST: $525.00

NL DOBIS will have a facility to produce tape records in the CANMARC Communications Format available. This format should be reviewed to ensure that required BCLN local and holdings information is output as required.

Implement magnetic tape record output.

PRIORITY: 3 GROUP: Systems
HOURS: 21 ELAPSED: 1 COST: $735.00

Minimal modification should be required to the existing NL DOBIS capabilities.

PART 7. IMPLEMENTATION PHASE TASKS.

Define batch product specifications for BCLN union catalogue.

PRIORITY: 3 GROUP: Library Support
HOURS: 35 ELAPSED: 1 - 3 COST: $875.00

Once the standard product has been defined, the only additional requirement for the Union Catalogue will be to concatenate the holdings of the member libraries.

Implement batch product specifications for BCLN union catalogue.

PRIORITY: 3 GROUP: Systems
HOURS: 42 ELAPSED: 1 - 3 COST: $1470.00

Using the specifications developed by the Library Support group, the Systems group will implement the union catalogue profile.

Produce BCLN union catalogue.

PRIORITY: 3 GROUP: Systems
HOURS: 14 ELAPSED: Ongoing COST: $490.00

The production of the BCLN union catalogue on fiche will require a significant amount of processing time. The Systems group will likely have to schedule this job in phases. Some time has been provided to formulate an efficient processing strategy.

PART 7. IMPLEMENTATION PHASE TASKS.

Define specifications for other standard batch products required by some BCLN libraries.

PRIORITY: 3 GROUP: Library Support
HOURS: 210 ELAPSED: 1 - 3 COST: $5250.00

Some batch products such as book catalogues, microfilm catalogues, and acquisitions lists are required by a few of the BCUC libraries; at the same time, NL DOBIS has developed similar products; once the standard products required by most libraries (cards and COM) have been developed, this second group of products should receive attention. As with other products, a standard product should be developed initially, to conform with user requirements.

Implement other standard batch products.

PRIORITY: 3 GROUP: Systems
HOURS: 210 ELAPSED: 1 - 3 COST: $7350.00

Where possible, existing NL DOBIS profiles may be used for products. If necessary, the report generator may be used to develop new standard products. First products should be produced to ensure user requirements are met.

Determine other required source files.

PRIORITY: 3 GROUP: BCLN membership
HOURS: ?? ELAPSED: 1 - 6

BCLN membership will have to determine the mechanism they will use to select additional source files (or other DOBIS files such as NL's or College Bibliocentre's) and then proceed to develop a preferential list of source files for acquisition and loading at BCLN DOBIS. The possibility of data base sharing and access to remote data bases should also be taken into consideration.

PART 7. IMPLEMENTATION PHASE TASKS.

Commence development of comprehensive systems and user documentation.

PRIORITY: 3 GROUP: Library Support
HOURS: 140 ELAPSED: Ongoing COST: $3500.00

Documentation standards and procedures will have to be established and responsiblity for its preparation and maintenance assigned. It is assumed that a word processing or text editing facility will be available. Existing NL DOBIS documentation and any preliminary material produced during the Initial Users phase will provide a basis for ongoing documentation.

Define specifications for added copies brief display screen.

PRIORITY: 3 GROUP: Library Support
HOURS: 28 ELAPSED: 1 - 2 COST: $700.00

A 'short-cut' for processing added copies is available in DOBIS, but has never been implemented by NLC. In addition to determining user requirements, the Library Support group should explore the possibility of 'turning on' the existing facility, or using it as a basis for local development.

Implement added copies brief display screen.

PRIORITY: 3 GROUP: Systems
HOURS: 42 ELAPSED: 1 - 2 COST: $1470.00

Using the specifications developed by the Library Support group, the Systems group will develop and test an added copies brief display screen.

PART 7. IMPLEMENTATION PHASE TASKS.

Assist in implementation of added copies brief display screen.

PRIORITY: 3 GROUP: Library Support
HOURS: 7 ELAPSED: 1 - 2 COST: $175.00

The Library Support group will work in conjunction with the Systems group during the programming and testing of the added copies brief display screen. They will clarify, or modify, specifications when required. Finally, they will assist in ensuring that the brief display screen is fully tested and meets required specifications.

Design specifications for improved input edits.

PRIORITY: 3 GROUP: Library Support
HOURS: 35 ELAPSED: 1 - 3 COST: $875.00

It may be desirable to wait until BCLN users have gained some experience with the DOBIS system before defining specifications for input edits.

Program and test improved input edits.

PRIORITY: 3 GROUP: Systems
HOURS: 70 ELAPSED: 1 - 3 COST: $2450.00

Using the specifications developed by the Library Support group, the Systems group will develop and test improved input edits.

Assist in implementation of improved input edits.

PRIORITY: 3 GROUP: Library Support
HOURS: 14 ELAPSED: 1 - 3 COST: $350.00

The Library Support group will work in conjunction with the Systems group during the programming and testing of improved input edits. They will clarify, or modify, specifications when required. Finally, they will assist in ensuring that the input edits are fully tested and meet required specifications.

PART 7. IMPLEMENTATION PHASE TASKS.

Design specifications for use of MARC tags on all display screens.

PRIORITY: 3 GROUP: Library Support
HOURS: 70 ELAPSED: 1 - 3 COST: $1750.00

It is possible that the use of MARC tags on all display screens could be implemented as the equivalent of another 'language' option in NL DOBIS. Although this would likely not involve any significant systems development, extensive time would be required to document the numerous changes required for each screen.

Implement MARC tags option for display screens.

PRIORITY: 3 GROUP: Systems
HOURS: 70 ELAPSED: 1 - 3 COST: $2450.00

Using the specifications developed by the Library Support group, the Systems group would implement the MARC tag option. As mentioned above, this task would likely not involve any significant systems development, but would require extensive time.

Assist in implementation of MARC tags option for display screens.

PRIORITY: 3 GROUP: Library Support
HOURS: 14 ELAPSED: 1 - 3 COST: $350.00

The Library Support group will work in conjunction with the Systems group during the implementation of the MARC tag option on display screens. They will clarify, or modify, specifications when required. Finally, they will assist in assuring that the changes are fully tested and meet required specifications.

PART 7. IMPLEMENTATION PHASE TASKS.

Develop policy for non-standard or individual library batch products.

PRIORITY: 3 GROUP: Implementation Committee
HOURS: 14 ELAPSED: 1 - 2

In addition to defining a policy on standard batch products, it will also be necessary to address the issue of non-standard products. The major objective of the proposed Implementation Committee will be to develop a general policy in this area. It should also incorporate a standard procedure by which such products will be reviewed and implemented.

PART 7. IMPLEMENTATION PHASE TASKS.

Most of the following tasks were identified in the report by Turner et al.[1] as required improvements to the NL DOBIS system. Because the system can be used before these modifications are implemented, they have been categorized as Priority 4 tasks. Implementation details have not been provided, as these activities could be expected to be carried out as part of regular ongoing systems development.

Some of these items are also priorities at NL DOBIS, and co-operative development might prove fruitful. This is especially true for those tasks pertaining to the LIBIS module which contains the Acquisitions facility. NL DOBIS is expecting to acquire the LIBIS software this year and to begin the necessary development work to interface LIBIS with NL DOBIS.

Acquire LIBIS module and implement 'test' version.

PRIORITY: 4 GROUP: Systems
HOURS: ?? ELAPSED: ??

This task could either be carried out independently by BCLN DOBIS or done in conjunction with NLC or other DOBIS users.

Define BCLN user and system requirements for full implementation of LIBIS module.

PRIORITY: 4 GROUP: Library Support
HOURS: ?? ELAPSED: ??

Regardless of the method by which LIBIS is implemented, BCLN DOBIS staff will have to spend considerable time on defining user and data base requirements for the implementation of Acquisitions and other LIBIS modules.

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[1] op. cit., p.19

PART 7. IMPLEMENTATION PHASE TASKS.

Implement BCLN user and system requirements for LIBIS module.

PRIORITY: 4 GROUP: Systems
HOURS: ?? ELAPSED: ??

The systems group will have to make any necessary changes to the software to reflect BCLN-specific requirements and fully test LIBIS before it is implemented on a production basis.

Assist in full implementation of LIBIS module.

PRIORITY: 4 GROUP: Library Support
HOURS: ?? ELAPSED: ??

As with other major systems development tasks, it will be essential that Library Support staff be closely involved so as to ensure that user requirements are fulfilled.

Develop statistical package.

PRIORITY: 4 GROUP: ??
HOURS: ?? ELAPSED: ??

User and system requirements for a statistical package will have to be developed. There are several major categories, for example, management information statistics and systems related reports. It is probable that statistical packages exist that could be easily modified for use with BCLN DOBIS.

Sort entries on short bibliographic display screen.

PRIORITY: 4 GROUP: Systems
HOURS: ?? ELAPSED: ??

At present, entries on the short bibliographic display screen are organized according to the order in which they are accessed by the system. Sorting of these entries would require some systems development work and additional processing overhead during on-line operations.

PART 7. IMPLEMENTATION PHASE TASKS.

Include bibliographic information in call number display screen.

PRIORITY: 4 GROUP: ??
HOURS: ?? ELAPSED: ??

At present, the call number access screen in NL DOBIS displays only the call number. It has been suggested that brief bibliographic data be added to this display. This task has been assigned a development priority by NLC.

Reorganize holdings display screen by location.

PRIORITY: 4 GROUP: Systems
HOURS: ?? ELAPSED: ??

At present, holdings in NL DOBIS appear in reverse entry order. It has been suggested that holdings be sorted by location.

Improve search facility to permit combined 'system' and 'local' level search.

PRIORITY: 4 GROUP: Systems
HOURS: ?? ELAPSED: ??

At present, a user must conduct a separate search for entries that may be present in both the 'systems' and 'local' level APFs. Modification of the system so that both levels could be searched automatically would require significant systems development. Another possibility might be to indicate in the system level document display that local data existed. This would require considerably less development.

PART 7. IMPLEMENTATION PHASE TASKS.

Introduce Boolean searching capability.

PRIORITY: 4 GROUP: ??
HOURS: ?? ELAPSED: ??

Boolean searching would enable users to combine separate search requests using such operators as 'and', 'or', and 'not'. This development has been assigned a relatively high priority at NLC. They have already undertaken considerable work in defining user and system requirements.

Develop more efficient report generator facility.

PRIORITY: 4 GROUP: Systems
HOURS: ?? ELAPSED: ??

BCLN may decide that complete re-development of the report generator is necessary. Alternatives that would interface directly with the BCLN DOBIS data base and use pre-sorted APF information should be explored.

Develop a cataloguer's screen.

PRIORITY: 4 GROUP: Systems/Library Support
HOURS: ?? ELAPSED: ??

Although this development was proposed in the earlier studies, it may be considered unnecessary if the cataloguer's printout proves an acceptable alternative.

PART 8. BCLN BATCH PRODUCTS

PART 8. BCLN BATCH PRODUCTS.

8.1 INTRODUCTION.

Batch products required by BCLN members include microfiche, microfilm, catalogue cards, magnetic tapes, printed lists, circulation cards, and spine labels. As well as products for individual libraries, there is a requirement to produce the BCLN COM Union Catalogue . Most batch products will be produced when no on-line work is proceeding.

Although there will always be a need to generate various batch products from the BCLN DOBIS data base, certain batch products such as microfiche catalogues are only 'interim' measures. The ultimate goal is to provide efficient and timely on-line access to bibliographic data bases for library users. The proposed establishment of the BCLN DOBIS facility will bring B.C. libraries closer to that goal. This report's recommendations and suggested priorities on the development of BCLN batch products reflect that objective.

8.2 DEVELOPMENT PRIORITIES FOR BCLN BATCH PRODUCTS.

At present, all BCUC members are receiving batch products from UTLAS. In addition, there are several products that members are interested in acquiring in the future. The following list contains most of the common library batch products:

- microfiche catalogues
- microfilm catalogues
- inventory lists
- book catalogues
- catalogue cards
- magnetic tapes
- acquisitions lists
- circulation cards
- spine labels
- barcode labels

Several of the above products are received by almost all BCUC members and some by only a few libraries. In addition, there is also some variation within products reflecting individual libraries' specific requirements or preferences.

PART 8. BCLN BATCH PRODUCTS.

8.2.1 Recommendation to develop standard batch products.

One of the basic requirements of the replicated BCLN DOBIS facility is that it be able to provide a level of batch product service that is comparable to that available from UTLAS. At the same time, there is a requirement to convert BCUC UTLAS users to BCLN DOBIS as quickly as possible to avoid logistics problems and additional costs. The time involved in setting up individually tailored products for each library would be very high. Further, the work would not go on in parallel so that some libraries would be subjected to a very long wait for their first BCLN DOBIS product. For this reason we are recommending:

- THAT BCUC define one set of standard specifications for each of the batch products to be developed by BCLN DOBIS during the Implementation Phase. Library-specific variations within those standard products will be limited.

The above recommendation will reduce the duration and the cost of the Implementation Phase.

There is some variation in what libraries currently receive in their products from UTLAS; it is likely that some of these variations can be incorporated into the specifications for a standard product. It should also be possible to permit some variation in the use of library-specific information in certain batch products. During the Implementation Phase, the standard batch products will be defined by the proposed Implementation Committee in consultation with other BCLN members.

The above recommendation does not preclude the eventual development of library-specific batch products; it will be necessary for BCLN to formulate a policy and procedure for the development and implementation of locally tailored batch products. However, there are several issues that will have to be resolved. For example, will BCLN libraries have to pay for the development of library-specific batch products?

PART 8. BCLN BATCH PRODUCTS.

8.2.2 Recommendation to assign priority to the development of standard batch products.

It is recommended

▪▪ THAT BCLN standard batch products be developed according to the following levels of priority:

ESSENTIAL TO ALL USERS

This category consists of batch products that are presently received from UTLAS by most, if not all, BCUC members. It includes microfiche catalogues and catalogue cards. The development of these standard batch products would be PRIORITY 2 tasks during the Implementation Phase. That is, they would have to be implemented before the completion of the Initial Users Phase.

ESSENTIAL TO SOME USERS

This category consists of batch products that are presently received from UTLAS by some BCUC members. It includes magnetic tapes, acquisitions lists, spine labels, microfilm catalogues, and book catalogues. The development of these standard batch products would be PRIORITY 3 tasks during the Implementation Phase. That is, they would be completed during the Implementation Phase if time and resources permitted. Failing that, they would become high priority post-Implementation tasks.

DESIRABLE

This category consists of batch products that are not presently received from UTLAS by any BCUC members. It would include barcode labels, KWIC-type index products, and any other conceivable items. The development of these standard batch products, if any were identified, would be PRIORITY 4 tasks. That is, they would not be initiated until after the completion of the Implementation Phase.

This recommendation reflects the basic objective of this study -- to develop the most time- and cost-effective strategy for establishing an operational BCLN DOBIS facility. Batch products that are currently received by some BCUC members have been assigned a lower development priority than others. However,

it would be difficult to justify a delay in transferring BCUC members to the local facility because all necessary batch products were not yet available.

8.3 PRODUCTION OF BCLN BATCH PRODUCTS.

Shoffner and Madden recommended that BCUC

> '...choose the NL/CISTI version of DOBIS on the condition that its planned output products are available prior to the time that the British Columbia committment must be made.'[1]

In the time since that report was produced, NL DOBIS has begun to produce products for its users -- particularly fiche and cards. Thus the requirement in the Shoffner report has been met.

To produce NL DOBIS products, records are pulled from the data base on the basis of a product queue specified by the user at the time of cataloguing. These records are produced in the standard DOBIS output ('DMARC') format. Because the NL DOBIS report generator package requires input formatted in the 'PCANMARC' format, the 'DMARC' records are converted to the 'PCANMARC' format. These records are then sorted and merged with the previous run for that particular product. For production of the initial products, the entire file for one library can be pulled from the DOBIS file. The advantage of the report generator package is its flexibility in allowing a variety of sorting, formatting and data selection options.

In our opinion, preliminary results suggest that the NL DOBIS method of fiche production is inefficient. If the entire file is to be extracted from the data base to create quarterly tape masters for all BCLN libraries, the elapsed time involved would be 3,443 hours, or 2.7 shifts per day for six months. This is completely unacceptable.

It is expected that a tape copy of each library's UTLAS file will be saved during the initial data base load. This can subsequently be used in the production of microfiche catalogues or other batch products and will eliminate the time consuming operation that would be required if all the records had to be

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[1] Op. cit., p.99.

PART 8. BCLN BATCH PRODUCTS.

extracted from the DOBIS data base for the initial product.

Even so, to produce the initial quarterly tape master for one fiche set for each BCLN library would require an estimated 36,666 CPU minutes on an IBM 3031. This is about 1,711 hours elapsed time, or 2.7 shifts per day, seven days a week for three months. This scale of work could not be produced within a quarterly period.

It should be emphasized that these figures are very preliminary and approximate. The times involved will vary widely depending on the machine used and data and access points required. In addition, no figures are available for the time required to produce subsequent runs once the initial fiche product has been produced. The time to produce subsequent products would be substantially less since the previous run is retained and merged with the updates.

The estimated magnitude of the time required to produce at least the initial fiche product for BCLN libraries suggested that the Bibliocentre fiche product be re-examined. However, the Bibliocentre fiche products would not be adequate for BCLN purposes. They are produced with a 'stand-alone' program rather than a report generating package. Bibliocentre uses a brief record format and produces the same sequences for all libraries on a fixed schedule. There is no provision for library-specific requirements. Modification to take into account BCLN needs would require significant programming work. Therefore, given the other significant advantages of NL DOBIS over the Bibliocentre version, there is not, in our opinion, sufficient reason to reverse the recommendation to select NL DOBIS.

Another possibility would be to use the University of British Columbia Library's report generator package to produce the required BCLN fiche. This facility is now used to produce the UBC Microcatalogue. To do this, tapes created for each library at the time the BCLN DOBIS database is created would be merged with updated records pulled from the NL DOBIS system as above.

In the long term the best solution might be to redevelop the method of producing fiche from the DOBIS system.

The foregoing estimations are extremely rough. More details are provided in Appendix E. Further, NL DOBIS has indicated that they hope to improve the efficiency of the report generator. Nevertheless, it is necessary to re-examine the alternatives for fiche production in order to reduce the time and cost.

PART 8. BCLN BATCH PRODUCTS.

It is recommended

- THAT a re-examination of the alternatives for fiche production for BCLN libraries be undertaken as a PRIORITY 1 task during the Implementation Phase.

The intention of this recommendation is that a feasible method for producing the initial BCLN library fiche products should be chosen; at the same time, the amount of development work should be kept to a minimum since the production of these products is a PRIORITY 2 task, and significant development work on batch products at that time would delay on-line implementation.

Clearly, if the NL DOBIS report generator is able to produce the fiche products in an acceptable time frame, then it is the best short-term solution. However, it may be necessary to examine the UBC Library alternative, or the possibility of modifying the Bibliocentre fiche production programs to interface with NL DOBIS and produce adequate products. Included in PRIORITY 4 tasks is the redevelopment of fiche production from BCLN DOBIS if further development is necessary.

PART 8. BCLN BATCH PRODUCTS.

8.4 STANDARD MICROFICHE CATALOGUE PRODUCTS.

At present, most BCUC members receive a library-specifc microfiche catalogue from UTLAS, and all libraries receive the union microfiche catalogue. The library-specific products contain only those records from a particular library's file at UTLAS. They may vary from library to library as UTLAS currently offers a range of standard microfiche catalogue products. The B.C. union microfiche catalogue contains all BCUC members' records from UTLAS and is produced annually.

In order to develop an initial standard product definition and to provide a time and cost effective production strategy, some changes in the microfiche products will be required. Although the union catalogue is already a standard product, it also requires re-examination. Its immense size poses some significant processing problems. Some of the proposed changes are positive ones that, it is hoped, will result in an improved and easier to use microfiche catalogue. On the other hand, some changes that will be necessary if the BCLN DOBIS facility is to be operational within a reasonable timeframe may not be the first choice of some members. However, the intent of this study's recommendations is not to ignore library-specific product requirements, but to postpone consideration and implementation of such products until after the completion of the Implementation Phase.

There are a number of basic issues pertaining to a standard microfiche catalogue product that will have to be resolved. This study has assigned this task to the proposed Implementation Committee as it will require input from BCUC members and, finally, some policy decisions. These issues, along with some recommendations, are discussed below.

8.4.1 Fiche format.

An overall fiche format for BCLN standard microfiche catalogue products will have to be determined. At present, there is a choice of two basic formats -- frame and scroll. The frame format divides each fiche into approximately two hundred frames (assuming 42x fiche). Each frame looks like two pages of an open book and contains between twelve and twenty records. An index frame in the bottom right corner of each fiche is used to access the frame containing the desired record. The scroll format places the records in thirty-two unbroken columns (assuming 42x fiche). No index frame is used; a record is accessed by scanning across

the columns until the appropriate column, and then record, are found.

As there are major advantages in using the scroll format instead of the frame format, it is recommended:

- THAT BCLN adopt the scroll format for its standard microfiche catalogue products.

Microfiche catalogues from UTLAS are currently produced in the frame format. However, the UBC Library which produces its own microfiche catalogue, and NL DOBIS are using the scroll format. The experience of both institutions confirms the advantages of using the scroll format. The general user finds its much easier to use and requires little instruction. There is no need to explain how index frames and grids work. It also achieves a ten to fifteen percent reduction in the overall size of a fiche set as it makes more efficient use of space on each fiche. This can result in significant cost savings for large fiche sets which are duplicated in large numbers. Finally, the product parameters that BCLN receives from NL DOBIS will already be set up for producing the scroll format. It will require less time to implement the BCLN standard product if it can be based on existing NL DOBIS parameters.

8.4.2 Choice of sequences.

Many permutations of author, title, series, and subject are currently in use in BCUC member library COM catalogues. For example, some libraries receive separate author and title sets, while others combine them into one sequence. Some libraries will also require a class, or shelf-list, sequence. For most libraries, especially those that have not yet completed retrospective conversion of their card catalogue, it will be desirable to have a microfiche catalogue that is divided into the same sequences as their manual files. Therefore it is recommended:

- THAT the standard microfiche catalogue product provide for variation in choice of sequences that will reflect library-specific requirements.

PART 8. BCLN BATCH PRODUCTS.

8.4.3 Brief and full display records.

The amount of information displayed under each entry will also have to be determined for the standard microfiche catalogue product. The possibilities are numerous and range from a very brief record to a full bibliographic record under each entry. The average catalogue record contains from four to six different entries, depending upon the number of sorting sequences. It is uneconomic to display the full bibliographic record under each entry. Most libraries usually have a relatively full record appear under the main entry or title only, and use a briefer record under other entries. Therefore, it is recommended

- THAT the BCLN standard microfiche catalogue product provide a relatively full record display format and a brief record display format. The full record format should appear in only one place. Typically, the full format is displayed under the main entry, or title, or in the register. The brief record display format, although restricted in content, should provide enough holdings information sufficient for the purposes of most general catalogue users.

The above recommendation uses the term 'relatively full record display' to emphasize that it is not necessary to print all bibliographic record information, even in the 'full' display. In those instances where it is necessary to view the entire bibliographic record, this information will be available on-line. Most libraries will be able to make provision for limited on-line access in those situations.

The above recommendation does not preclude use of library-specific information from the 'local' level files in the BCLN DOBIS system. However, as dicussed in earlier sections of this report, there are several limitations associated with the use of 'local' level files.

8.4.4 Cumulations and Supplements.

The cumulation and supplements pattern for UTLAS microfiche catalogues also varies among BCUC members. It is usually dependent on the size of a user's product, the amount of information displayed, and the frequency of production. Although it is desirable to re-cumulate an entire microfiche catalogue every time it is produced, it can become very expensive. Many libraries only re-cumulate their entire microfiche catalogue

annually and rely upon supplements for most of the year.

At this time, it is not possible to recommend a desirable policy with respect to cumulations and supplements. Ideally, each library will be able to determine its own requirements. However, it may be necessary to establish some restrictions on the frequency of cumulations if the report generator facility is limited in its production capacity.

8.4.5 Frequency.

The frequency of microfiche catalogues will also be largely determined by cost, and other, factors. As with the issue of cumulations and supplements, it may be necessary to establish some restrictions in this area. During the Implementation Phase, the first microfiche catalogue for each BCLN library has been tentatively scheduled for production about three months after its transfer to the local facility.

8.4.6 Use of the index/register model for fiche sets.

NL DOBIS is presently using an index/register approach for microfiche products and it is a model that could be adopted by BCLN DOBIS. It provides effective solutions to many of the microfiche product issues discussed above, especially if the report generator facility is limited in its production capacity.

An index/register fiche set consists of several index fiche sets and one register fiche set. The index fiche sets are sorted by author, title, subject, and other appropriate sequences. They contain only a very brief display record that also provides access to the more complete record in the register fiche set. The records on the register fiche set are arranged arbitrarily by an assigned number.

One of the biggest advantages of the index/register approach is that only the indexes require complete updating and re-cumulating each time a new product is produced. Register fiche containing new or updated records are also produced, to be appended to the previous register fiche set. The updated index sets will always point to the latest version of the record in the register set. Periodically, the register fiche set is 're-based' and re-issued. A disadvantage of the index/register approach is that it may require a 'two-step' look-up depending upon the amount of information that is displayed or not displayed in the index sets.

PART 8. BCLN BATCH PRODUCTS.

8.5 CATALOGUE CARDS.

Although most BCUC libraries are relying upon microfiche catalogues for access to their records, they are still also receiving, at least, a shelf-list card. Several libraries are also receiving complete card sets from UTLAS. It appears likely that most libraries will want to continue receiving at least a shelf-list card for the forseeable future.

The development of a standard catalogue card product will not be difficult. Product conventions for cards have existed for a long time and BCUC libraries are already receiving a fairly standard product from UTLAS. The catalogue card parameters that BCLN receives from NL DOBIS will be able to produce a product that is almost identical to that which is currently received from UTLAS. Therefore, it is recommended

- THAT BCLN implement the NL DOBIS catalogue card parameters without undertaking any significant modification of them.

The only identified deficiency in the NL DOBIS card parameters is the inability to accommodate records for A/V materials. However, this only requires the addition of less than ten MARC fields to the existing parameters. The development of an A/V card format has been included as a task during the Implementation Phase.

Some of the general comments about standard microfiche catalogue products will also apply to the production of catalogue cards. Although it will be desirable to permit some variation in the sorting and production of cards, it may be necessary to impose some restrictions during the Implementation Phase if the report generator's capacity is limited.

PART 8. BCLN BATCH PRODUCTS.

8.6 MAGNETIC TAPES.

Only a few BCUC libraries are currently receiving magnetic tapes from UTLAS, but it will become increasingly important that the BCLN DOBIS facility be able to produce magnetic tape output. It is expected that many BCLN members will require machine-readable copies of their records for use in local circulation, and other, systems. Additionallly, BCLN will also be interested in exchanging records with other library data bases and networks. It is recommended:

- THAT BCLN base its standard magnetic tape product on the CANMARC communications format.

The CANMARC communications format is a recognized standard and already in widespread use. In addition, the NL DOBIS facility is able to produce output records in what is known as the PCANMARC(pseudo-CANMARC) format. Essentially, it is the CANMARC format with some provision made for information that is unique to the DOBIS system. That format may be suitable for use by BCLN members without any modifications.

BCLN members will also want magnetic tape output in record formats that are directly compatible with local systems. However, as with other library-specific products, any custom product development should be postponed until the post-Implementation period.

PART 8. BCLN BATCH PRODUCTS.

8.7 OTHER STANDARD BATCH PRODUCTS.

Microfilm catalogues, acquisitions lists, book catalogues, and spine labels are currently received from UTLAS by various BCUC members. It is possible that other BCUC libraries will also be interested in some of those products.

With the exception of spine labels, NL DOBIS is already producing the above products for one, or more, of its participating libraries. As BCLN DOBIS will receive copies of the report generator parameters for those products it may be possible to use them as a basis for developing BCLN standard products. This will reduce the time required for product development. However, if a more efficient report generator facility is available locally, it should be used to develop these products.

The development of these standard batch products has been included in the Implementation schedule, but they have been categorized as PRIORITY 3 tasks. That is, they would be completed during the Implementation Phase if time and resources permitted. Failing that, they would become high priority post-Implementation tasks. It should not be assumed that there will be a significant delay in the appearance of these products. It simply means that these products will not be completely developed when BCUC libraries start transferring to the local facility. Instead, they will be developed concurrently as that operation occurs. In most instances, they should be available within a time period that is satisfactory to all users.

PART 9. SUPPLEMENTARY REPORTS OVERVIEW

PART 9. SUPPLEMENTARY REPORTS OVERVIEW.

The first eight parts of this report contain the user- and data base-related information required to make a decision on replication. They include an assessment of whether BCLN DOBIS meets BCUC user requirements, as well as time and cost estimates for implementation. A detailed description of the tasks necessary to load the data base, make necessary systems changes, and transfer the users from UTLAS to BCLN DOBIS is contained in PART 7.

As outlined in PART 1.3, this study will contain three supplementary reports. The information included in these supplementary reports is necessary as part of the definition of the data base and user requirements.

Much of what was to have been included in the supplementary reports is already contained, or referred to, in the Main Report. What follows is a description of further detail to be provided in the supplementary reports.

9.1 PLAN FOR TRANSFER OF USERS TO THE BCLN FACILITY.

The detailed tasks in PART 7 include any specific tasks necessary to effect the transfer. This Supplementary Report will consist of an implementation table for those tasks specifically related to the tranfer of users, and a discussion of the transfer logistics.

9.2 REVIEW OF BCUC PILOT USAGE STUDY.

This report has recommended a significantly different method for creation of the BCLN data base from that recommended by Shoffner. Because the data base is to be created locally, it will be neither necessary nor useful to carry out a pilot study on the NL DOBIS facility. Nevertheless, it is essential to have a few initial users on the BCLN DOBIS facility to ensure that the system is operating satisfactorily. Therefore, it is recommended

- THAT BCLN DOBIS begin its on-line operation with the transfer of three 'initial user' libraries from UTLAS to BCLN DOBIS.

Implementation tasks, times and costs, reflect this recommendation. Shoffner recommended that three libraries be involved in the Pilot Study. Since the Initial Users Phase is to replace the Pilot Study, it seems appropriate to use the same number of libraries as 'guinea pigs'. This recommendation will be discussed in more detail in the Supplementary report.

PART 9. SUPPLEMENTARY REPORTS OVERVIEW.

9.3 REQUIREMENTS FOR OPERATIONAL POLICY AND USER SUPPORT.

Throughout this report, but particularly in PARTs 3, 4 and 8, general descriptions have been given for data, training, documentation, standards, and policy, requirements. Task descriptions and time and cost estimates have been provided in the Main Report for this type of information. As time permits, more detail will be provided as to what is required in each of these areas.

APPENDIX A. BCLN UNION FILE GROWTH ESTIMATES

B.C.UNION CATALOGUE

7671 Alderbridge Way
Richmond, B.C. Canada
V6X1Z9 Phone: (604) 273-9521

M E M O R A N D U M 03 February 1981

TO: Lynn Rosen/Brian Owen (UBC Library Processing Centre)

FROM: Paul Baldwin (BCUC Office)
BC Union Catalogue

SUBJECT: APPENDIX A: BCLN Union File Growth Estimates

As promised, I have enclosed the original and two copies of Appendix A.

You may still wish to enter this data on the text editor. But I have enclosed the original in case you wish to use it for reproduction of the final report.

PEB/jr

c.c.: Stephen H. Smith, Systems West Consultants

APPENDIX A: BCLN UNION FILE GROWTH ESTIMATES

I. BCUC Data Base Size and Growth at the UTLAS Facility

Library (by Type)	April 1981 Data Base Size	Cataloguing Workload April 1981-March 1981
A. University Libraries		
1. Simon Fraser Univ. (Burnaby, B.C.)	153,000	20,000
2. Univ. of British Columbia (Vancouver, B.C.)	177,000	60,000
3. Univ. of Victoria (Victoria, B.C.)	120,000	30,000
Subtotals	450,000	110,000
B. College/Institute Libraries		
1. BCIT (Burnaby, B.C.)	73,000	10,000
2. Camosun College (Victoria, B.C.)	35,000	5,000
3. Capilano College (North Vancouver,B.C.)	66,000	6,000
4. Cariboo College (Kamloops, B.C.)	50,000	4,000
5. Douglas College (Richmond, B.C.)	89,000	12,000
6. David Thompson Univ. Centre (Nelson, B.C.)	63,500	6,000
7. East Kootenay College (Cranbrook, B.C.)	16,000	2,000
8. Fraser Valley College (Abbotsford,B.C.)	27,000	2,000
9. Justice Institute of B.C. (Vancouver, B.C.)	6,000	2,000
10. Malaspina College (Nanaimo, B.C.)	51,000	4,000
11. College of New Caledonia (Prince George, B.C.)	51,000	6,000
12. Northern Lights College (Dawson Creek, B.C.)	15,000	3,500
13. Northwest College (Terrace, B.C.)	18,500	5,000
14. Okanagan College (Kelowna, B.C.)	39,000	4,000
* 15. Open Learning Institute (Richmond,B.C.)	500	500
16. Pacific Vocational Institute (Burnaby, B.C.)	6,000	2,000
* 17. Selkirk College (Castlegar, B.C.)	67,000	3,500
18. Vancouver Community College (Vancouver, B.C.)	92,000	12,000
Subtotals	765,500	89,500

* Do not have terminals in own quarters at present time.

APPENDIX A: BCLN UNION FILE GROWTH ESTIMATES

I. BCUC Data Base Size and Growth at the UTLAS Facility

	April 1980 Data Base	Current Cataloguing April 1981-March 1982
C. Public Libraries		
1. Burnaby Public Library	14,000	8,000
2. Greater Victoria Library	12,000	12,000
3. Richmond Public Library	50,000	8,000
	76,000	28,000
D. Other BCUC Members		
1. Legislative Library of B.C.(Victoria)	10,000	4,500
*2. Ministry of Education Library	500	500
3. Vancouver Special Libraries	15,000	3,000
	25,000	8,000
E. UTLAS Based Recon Activity		
1. SFU	n.a.	30,000
2. Univ. of Victoria	n.a.	30,000
		60,000
F. Grand Totals	1,317,000	295,500

Note: Each library file size listed above represents a separate file of MARC bibliographic records in the UTLAS Facility. It is not a measure of unique records.

Estm: (1) 60% or 800,000 of the 1,317,000 are unique bibliographic records.

(2) That current accessions are only 30% are unique.

APPENDIX A: BCLN UNION FILE GROWTH ESTIMATES

II. Potential New BCUC Member Libraries

Begin Current Cataloguing 1981 or 1982 Library	Annual Titles Catalogued
1. New Westminster Public Library	7,500
2. North Vancouver City Library	5,500
3. North Vancouver District Library	5,300
4. Port Moody Public Library	2,900
5. Vancouver Public Library	20,000
6. West Vancouver Memorial Library	11,000
Subtotal Titles Per Year	52,200

III. Public Libraries RECON PROJECT (Sept.-1981-1982)

(done at NLC DOBIS Facility)

	Estimated Records
1. Burnaby Public Library	122,570
2. New Westminster Public Library	122,460
3. North Vancouver City Library	79,630
4. North Vancouver District Library	69,770
5. Port Moody Centennial Library	32,570
6. Vancouver Public Library	399,010
7. West Vancouver Public Library	99,010
8. Greater Victoria Public Library	166,180
Total	1,091,200

Sample estimate of unique records (between 8 libraries): 400,000

OVERLAP of these records with BCUC data base: (?)

APPENDIX A: BCLN UNION FILE GROWTH ESTIMATES

IV. Estimated Annual Cataloguing Workloads

New Library Holdings	All Types Total	By Type		
		Adds	Mods	Origs.
Current Cataloguing				
1. University Libraries	110,000	55,000	10,000	45,000
2. College/Institute Libraries	90,000	65,000	10,000	15,000
3. Public Libraries	80,000	70,000	10,000	10,000
4. Other	10,000	5,000	2,000	3,000
5. Totals	290,000	195,000	32,000	73,000
RECON ACTIVITIES				
University Libraries	100,000	50,000	10,000	4,000
Grand Totals	390,000	245,000	42,000	77,000

APPENDIX A: BCLN UNION FILE GROWTH ESTIMATES

V. Summary of BCLN-DOBIS Union File Growth

Period Ending	Bibliographic File	Holdings File
March 31, 1981	900,000	1,612,000
March 31, 1982	1,020,000	2,012,000
March 31, 1983	1,140,000	2,412,000
March 31, 1984	1,260,000	2,812,000
March 31, 1985	1,380,000	3,212,000
March 31, 1986	1,500,000	3,612,000
March 31, 1987	1,620,000	4,012,000

Assumptions:

(1) Bibliographic file grows at an average rate of 120,000 records per year

(2) Holdings file grows at the rate of 400,000 records per year.

APPENDIX B. BCLN SOURCE FILE GROWTH ESTIMATES

APPENDIX B. BCLN SOURCE FILE GROWTH ESTIMATES.

These figures have been compiled for the purpose of estimating the overall data base size of a replicated BCLN DOBIS facility. They will help the consultants currently working on the hardware requirements for a BCLN DOBIS facility in arriving at a suitable estimation. Because of time and information constraints, a number of assumptions have been made about the method, and number, of source files, their respective sizes, and the relationships between source files, and also BCUC files. Generally, the largest figure has been assumed. This was probably the easiest method to allow for a sizeable "safety" margin in the final figures.

Some of the basic assumptions that have been made are:

1. Initial BCLN source files will consist of all source, and other, files available in the NL DOBIS data base at the time of replication.

2. The existence of duplicate records among source files, and also among source and user files, has not been taken into consideration. That is, the gross source files sizes have not been altered to reflect this.

3. The impact of data storage methods in a DOBIS system have also been ignored in compiling the following figures. That is, gross record totals and average MARC record sizes will not provide an accurate reflection of actual storage requirements. In several respects they will be too high.

It should also be kept in mind that, after replication, it will be up to BCLN to decide which source files it wishes to maintain. It may choose not to continue updating some categories of records it receives from the NLC DOBIS data base, or it may decide to acquire some source files that are not available in the NL DOBIS data base at the time of replication.

Source files have been divided into four general categories in the following tables. They are:

1. BIBLIOGRAPHIC: consist of the traditional MARC bibliographic source files which are currently loaded in the NL DOBIS data base and would be of interest to BCLN in any event.

APPENDIX B. BCLN SOURCE FILE GROWTH ESTIMATES.

2. AUTHORITY: consist of the major authority source files in machine readable form and also of interest to BCLN. At this time, no authority source files have actually been loaded in the NL DOBIS data base, but there are plans to do so before BCLN is ready to replicate the NL DOBIS data base.

3. OTHER BIBLIOGRAPHIC: consist of other files of bibliographic records which will be in the NL DOBIS data base at the time of replication. Although they do not fit into the definition of "source" files as currently used at UTLAS they will be included with the other records that BCLN acquires from NLC.

4. POSSIBLE: consist of other files of bibliographic records which will likely not be in the NL DOBIS data base at the time of replication. As some of these files are available at UTLAS, BCLN may wish to consider independently acquiring and loading some, or all, of the source files in this category. The size and growth projections for these source files are very tenuous, and no attempt has been made to provide projected figures, other than in the summary table where an arbitrary figure was chosen to be representative of all "OTHER" files actually acquired by BCLN.

APPENDIX B. BCLN SOURCE FILE GROWTH ESTIMATES.

SOURCE FILES SIZE AND GROWTH ESTIMATES

TYPE	Dec.9,1980	April,1981	April,1982	April,1983	April,1984	April,1985
BIBLIOGRAPHIC						
CANMARC*(monographs 1973-) (NLC est. 2000 rec/month)	125,989	134,000	158,000	182,000	206,000	230,000
LC MARC (retro. & current) (Est. 15000 rec/month)	1,187,583	1,250,000	1,430,000	1,610,000	1,790,000	1,970,000
COMSER (auth. serials 1975-) (NLC est. 2000 rec/month)	88,291	96,000	120,000	144,000	168,000	192,000
SUB-TOTAL:	1,401,863	1,480,000	1,708,000	1,936,000	2,164,000	2,392,000
AUTHORITIES**						
NL SUBJECTS			25,000	25,000	25,000	25,000
LAVAL SUBJECTS (RVM file from UTLAS)			45,000	45,000	45,000	45,000
SHARAF/LC SUBJECTS			250,000	250,000	250,000	250,000
NL NAME (Est. 1000 rec/month)			170,000	182,000	194,000	206,000
LC NAME (Est. 4000 rec/month)			125,000	173,000	221,000	269,000
SHARAF NAME			150,000	150,000	150,000	150,000
SUB-TOTAL:			765,000	825,000	885,000	945,000

* Growth rate may increase when other record types are available.
** NLC has not yet loaded any authorities records into DOBIS, but their schedule indicates that the above will be loaded during the 1981/82 fiscal year. Assuming growth in only LC and NL NAMES, and this due to AACR2 implementation.

APPENDIX B. BCLN SOURCE FILE GROWTH ESTIMATES.

SOURCE FILES SIZE AND GROWTH ESTIMATES

TYPE	Dec.9,1980	April,1981	April,1982	April,1983	April,1984	April,1985
OTHER BIBLIOGRAPHIC						
CISTI (records from UTLAS) (Est. 1000 rec/month)		85,000	97,000	109,000	121,000	133,000
NL-ONLI (retro. non-CANMARC; no growth expected)		60,000	60,000	60,000	60,000	60,000
NL-CENTRED CONTENTS NOTES (retro., no growth expected)		31,000	31,000	31,000	31,000	31,000
MACHINE READABLE ACCESSIONS (will commence as soon as NL receives tapes)			** no estimates available **			
SUB-TOTAL:		176,000	188,000	200,000	212,000	224,000
POSSIBLE						
NL-RETRO (NLC est. 7,000 rec.)						
CANADIANA PAMPHLETS (NLC est. (3,000 rec.)						
CANADIANA SOUND RECORDINGS (NLC est. 5,000 rec.)						
UK MARC (AACR2 only, NLC est. 35,000 rec.)						
TRANSPORT CANADA CTCS (NLC est. 85,000 rec.)						
INTERMARC (NLC est. 90,000 rec.)						
NLM (184,000 in UTLAS as of Sept.1979)						
COMARC (no est.)						

SOURCE FILES SIZE AND GROWTH ESTIMATES - SUMMARY

TYPE	Dec.9,1980	April,1981	April,1982	April,1983	April,1984	April,1985
BIBLIOGRAPHIC	1,401,863	1,480,000	1,708,000	1,936,000	2,164,000	2,392,000
AUTHORITIES			765,000	825,000	885,000	945,000
OTHER BIBLIOGRAPHIC		176,000	188,000	200,000	212,000	224,000
POSSIBLE*			200,000	250,000	300,000	350,000
OVERALL TOTAL:	1,401,863	1,656,000	2,861,000	3,211,000	3,561,000	3,911,000

*an arbitrary figure of 200,000 initially, with an growth rate of 50,000, has been used to represent all source files included in this category.

APPENDIX C. SURVEY OF BCUC USERS

B.C.UNION CATALOGUE

7671 Alderbridge Way
Richmond, B.C. Canada
V6X1Z9 Phone: (604) 273-9521

December 23, 1980

TO:

FROM: Lynn Rosen, G.W. Brian Owen
BCUC Replication Study -
Design Phase I.
BCUC Data Base Loading and
BCLN User and Data Base
Requirements Study.

As part of the process of replicating the DOBIS system for BCLN, it will be necessary to construct a BCLN data base from the individual BCUC library files now resident at UTLAS. While details remain to be worked out, it is likely that the process for creating the union file will be similar to that used for creating the BCUC COM catalogue: from among the matching records, one copy of the catalogue records will be selected and the holdings for the other libraries attached to it; however, it may be possible to build some flexibility into this procedure. Further, it is necessary to ensure that information crucial to the individual library not be lost in the amalgamation process. Because the linkages are internal to UTLAS' structure, it is likely that an algorithm will be employed instead to identify duplicate records.

The purpose of this survey is to identify types of information in each library's records which must be carried over to the replicated facility. This includes information of local interest as well as bibliographic information important for your library but not necessarily included by other libraries.

We have mentioned specific areas known to be of concern, but would ask you to note others we may have missed.

This survey is for general information-gathering purposes. It is expected that prior to replication, a detailed review will be made of each library's record requirements. In your responses, it is not necessary to provide complete coding details; neither should you feel compelled to provide extensive documentation as this is a preliminary survey.

If you have any questions regarding this survey, feel free to call us.

Lynn Rosen 228 - 6362
G.W. Brian Owen 228 - 5066

Because of the time constraints on this project, we would appreciate your responding by January 14, 1981.

Please send your response to: G.W. Brian Owen
University of British Columbia
Library Processing Centre
2206 East Mall
VANCOUVER, B.C.
V6T 1Z8

B.C.UNION CATALOGUE

7671 Alderbridge Way.
Richmond, B.C. Canada
V6X1Z9 Phone: (604) 273-9521

SURVEY

Date Issued: December 23, 1980 Return Requested by: January 14, 1981

TO: Subcommittee on Bibliographic Standards
and Union Catalogue Design

FROM: Lynn Rosen, G.W. Brian Owen

SUBJECT: BCUC Records on UTLAS

Please send your response to: G.W. Brian Owen
University of British Columbia
Library Processing Centre
2206 East Mall
VANCOUVER, B.C.
V6T 1Z8

QUESTIONNAIRE

Name of Institution: _____

I GENERAL CATALOGUING INFORMATION

1. Uniform Titles

Does your library -

a. use uniform titles as entry points Yes_____ No_____

b. follow LC practice:

a. choice of entry Yes_____ No_____

b. form of entry Yes_____ No_____

c. maintain local authority control over uniform titles for:

a. choice of entry Yes_____ No_____

b. form of entry Yes_____ No_____

2. Authority Control

Rank the following sources for authority control from first (1) to last choice. Rank only those sources you use.

Original Cataloguing:

	Main Entry	Subject	Series	Added Entries
a. LC				
b. NLC Names				
c. Local authority file				
d. Derived copy				
e. Separate entries for pseudonyms				
f. other				

Derived Cataloguing:

	Main Entry	Subject	Series	Added Entries
a. LC				
b. NLC Names				
c. Local authority file				
d. Derived copy				
e. Separate entries for pseudonyms				
f. other				

3. Are the following practices acceptable in your library?

a. Record untraced series in a notes field

Yes_____ No_____

Yes, but used only infrequently____

b. Use the form 490 $I1 Ø and rely on product specifications to trace the series.

Yes_____ No_____

Yes, but used only infrequently____

c. Except in infrequent circumstances, a'l series are traced explicitly in the record.

Yes_____ No_____

Yes, but used only infrequently____

II. CODING LEVEL

Indicate which of the following types of records, other than standard derived or original, reside in your file and how they are identified:

Record Level	Yes	No	ff.32 Code	Other
1. Brief				
2. Recon derived				
Recon original				
Recon skeletal (not dropped)				
3. Pseudo x-refs. coded in bibliographic file				
4. Music sound recordings				
5. Brief non-Roman records				
6. Other				

III. Local information (note that the records used for replication will be in a communications format which does not indicate if a field is "local" or "real".)

1. Do you record numbers relating your UTLAS record to local systems information?

   Yes_____ No_____

   Number_____ How coded_____

2. Do you record holdings information in other than the 090 field?

   Yes_____ No_____

   Information_____ How coded/identified_____

   _____ _____

   _____ _____

3. Do you record accession information in field 090, 098, 035, or in fixed fields?

   Yes_____ No_____

   Information_____ How coded/identified_____

   _____ _____

   _____ _____

4. Do you record other local information in the records?

   Information_____ How coded/identified_____

   _____ _____

   _____ _____

IV. DATA PROBLEMS

It is recognized that some data problems exist which need to be taken into account in the BCLN data base loading.

1. On UTLAS the LCCN must be unique to a library file. Because of this, if there is an 011 field but no 010 field in your record, does that mean the 011 field has the proper LCCN for that item?

   Yes_____ No_____ Not sure_____

2. Same for ISBN in 020, 021

   Yes_____ NO_____ Not sure_____

3. Note briefly other data problems or cataloguing practices (other than linkages) which might affect success of the data base loading.

APPENDIX D. CORRESPONDENCE

a. Memo (12/24/80) to Paul Baldwin re: Visit to UTLAS

b. Letter (03/13/81) from William L. Newman re: NL DOBIS

APPENDIX D. CORRESPONDENCE.

TO: Paul Baldwin, Project Manager.

FROM: Lynn Rosen, G.W.Brian Owen

Following is a summary of the discussion we had with Harriet Velazquez and Eric Anttila about several replication-related topics on the morning of Dec.9, 1980 at UTLAS offices in Toronto.

Use of Linkages Index to Concatenate BCUC records First, it was pointed out that the linkages are internal systems information and are the property of UTLAS. They are not considered to be part of the record that a user would "own" and therefore would not be included in any copies of BCUC files. Second, UTLAS does not currently have the capability to provide a concatenated, or merged, file of all BCUC users via the linkages index. They were willing to consider the possibility of being contracted to carry out the necessary systems enhancements, but pointed out that such work would be costly, require 3 to 6 months once such a task was started, and, in any event, that this programming development would be assigned a relatively low priority by UTLAS.

Obtaining Tape Copies of BCUC Files in UTLAS UTLAS does not envision any problems with producing tape copies of the various BCUC files in UTLAS. It was mentioned that some enhancements have been made to their tape programs that will permit use of several formats other than the UTLAS communication format for records appearing on tape products. This will be implemented sometime in the Spring, 1981. Because of the size of such a job, it was recommended that BCUC allow sufficient lead time (at least 3 to 6 months) so that UTLAS could schedule the job so that it would be completed in a relatively short time span. It was suggested that the Spring period would be the best time for this job because of reduced demand for batch products during that period.

Linkage Error List. The linkage error list that UTLAS produces during production of the BCUC Union COM Catalogue is a relatively straightforward title match of approximately the first 40 characters.

Authority Communication Format. UTLAS has developed the capability to generate tapes with authority records in the standard CANMARC Authority format.

BCUC Records in the SHARAF File. The understanding is that BCUC libraries will be able to acquire copies of all authority records they have put into the SHARAF file. Harriet said that this should be stated in the SHARAF contract and promised to send BCUC a copy

APPENDIX D. CORRESPONDENCE.

as soon as possible.

Telecommunications Linkages with other Data Bases. It was agreed that part of the long term plans at UTLAS were to establish direct communications linkages with other library biblioraphic data bases. UTLAS has already had discussions in this area with RLG, and would be interested in talking about such linkages with a B.C. Library Network after it is established. Any such developments would be compatible with international standards.

Dropped/Skeletal Records. UTLAS deletes dropped records entirely from a user's file, although they would appear on a tape that is received on a regular weekly basis from UTLAS because it is based on the records appearing in the daily work file during the period covered by the tape. UTLAS could not foresee any problems occuring in a tape copy of a user's file that would be caused by dropped records.

National Library of Canada | Bibliotheque nationale du Canada
Library Systems Centre | Centre des systèmes de bibliothèque

Our file: 054
March 13, 1981

Lynn Rosen
BCUC
7671 Alderbridge Way
Richmond, B.C.
V6X 1Z9

Dear Lynn:

Following/attached are answers to your telephone enquiries:

i) The National Library and CISTI intend to integrate the LIBIS acquisitions and circulation modules with the government of Canada version of DOBIS. The LIBIS modules have been ordered from IBM, and the program materials should be delivered any day now. Of the two modules, acquisitions has the higher priority. In fiscal year 81/82, we do not intend to expend significant resources on acquisitions development, but intend to at least have LIBIS acquisitions operating in our test partition, with test DOBIS, for trial by potential users.

ii) DOBIS authority file and field layouts, and a scenario of authority searching and creating a name authority records are enclosed.

iii) The average length of an authority file record, excluding the heading which is stored in an authority a.p.f., will be around 85 characters. A typical authority record without any notes will be 52 bytes (two-thirds of the records in NLC's batch authority system do not have any notes).

iv) The elapsed time to produce the first CISTI COM catalogue of 86,000 document descriptions on the IBM 370/3031 is as follows:

select	50
convert	31
report generator	48
COM page mode tape for film	23
fiche	11
sorts & verifies	3
	166 hours

Subsequent runs will be much shorter since only changes and additions are selected, converted, and processed by the report generator. In addition, we are tuning the process (increasing the number of buffers, etc.) to reduce output product elapsed times.

Sincerely,

William L. Newman
Assistant Director
Computing Services
Library Systems Centre

395 Wellington
Ottawa K1A 0N4

APPENDIX E. ESTIMATE FOR FICHE TAPE PRODUCTION

APPENDIX E. ESTIMATE FOR FICHE TAPE PRODUCTION

I. The following figures were provided by NL DOBIS:
(These were based on the initial PSC COM production.)

Process:	CPU min./1000 records.
DOBIS -> DMARC	10.3
DMARC -> PCAN	18.5
PCAN -> fiche tape	19.2 (initial run)

Elapsed time : CPU time is 2.8:1 (This is the on-line figure -- likely too low for batch products.)

Therefore the CPU time to produce the initial BCLN products (excluding the BCUC COM catalogue) is:

For existing records off-line:
1,700,000 x 19.2 = 32,640 CPU min.

For updates from BCLN DOBIS file:
(335,000 / 4) x 48 = 4,026 CPU min.

Total: 36,666 CPU min.

Elapsed time: 36,666 x 2.8 min. / 60 = 1,711 hours

APPENDIX E. ESTIMATE FOR FICHE TAPE PRODUCTION

II. NLC also indicated that the elapsed time to produce the initial CISTI COM fiche containing 86,000 records was 166 hours. Based on this figure, the elapsed time to produce the initial quarterly BCLN COM fiche for every library, if all the records had to be extracted from the data base, would be:

(1,700,000 + [335,000 / 4]) x 166 / 86,000 hours = 3,443 hours

This is the equivalent of 2.7 shifts per day over a six-month period.

Given these figures, it is essential that BCLN user records to appear in their COM products be created from the union records during the data base load.

APPENDIX F. DOCUMENTS REVIEWED FOR THIS REPORT

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